

WESTERN INDUSTRY



Dorsal fins for Superfortresses from Pacific Northwest factories form glistening symmetrical patterns.

Twenty-Five Cents

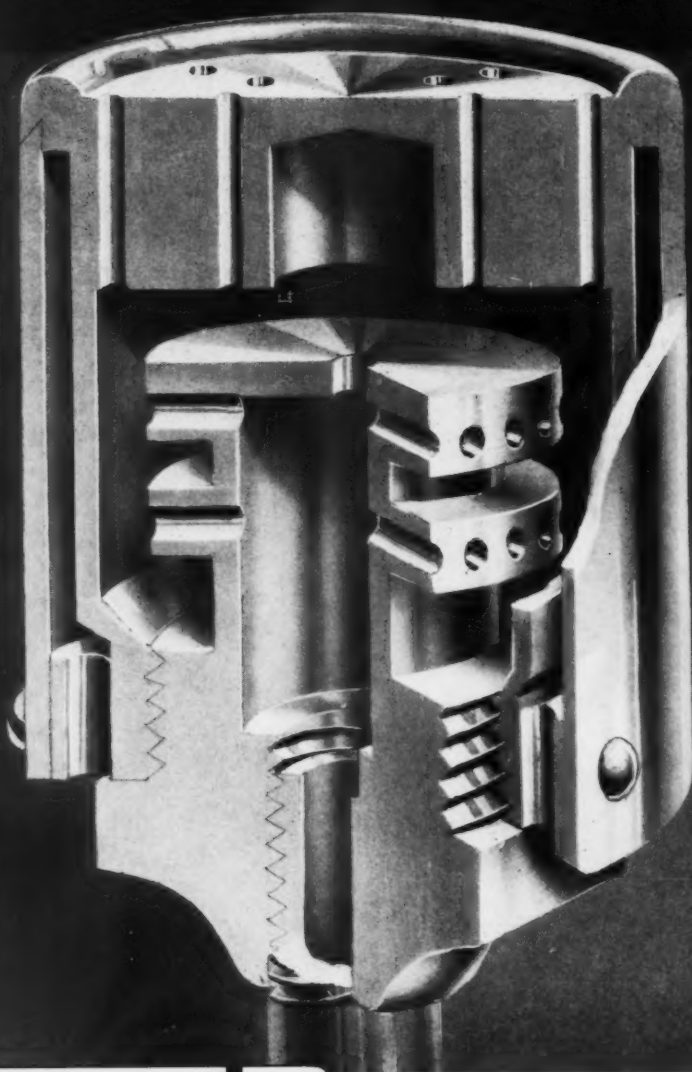
VOLUME IX

NUMBER 12

December, 1944

A New Heating Nozzle

for Oxy-Butane, Propane or Natural Gas



VICTOR



AD No. 95

Here is an additional heating nozzle for all Standard Victor Welding Torch models of the "300" series. An outer air mantle protects the tip against deflected heat. Internal construction and path of gases adds to cooling effect. These multi-flame heating nozzles are also made in various sizes to utilize oxy-acetylene. Efficient multi-flame heating nozzles add tremendously to the value of a good welding torch.

VICTOR EQUIPMENT COMPANY • 844 FOLSOM STREET • SAN FRANCISCO 7

lots of it

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CALL JORGENSEN FIRST!



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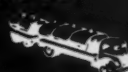
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LOS ANGELES

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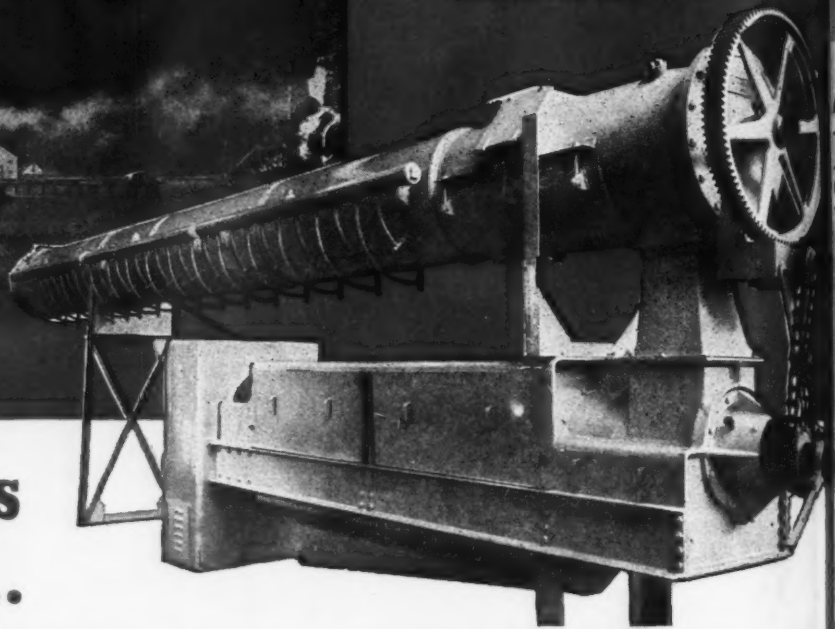
HOUSTON



AIRCRAFT ALLOY STEELS COMMERCIAL ALLOY STEELS MILD STEEL STAINLESS STEELS ABRASIVE RESISTING STEELS COLD FINISHED STEEL
HIGHER TENSILE STEELS CARBON STEELS TOOL STEELS MINING DRILL STEELS BARS BILLETS PLATES SHEETS STRUCTURAL

Fish Cooker and Press Unit made by the California Press Manufacturing Company of San Francisco—for extracting oil and for production of fish meal. Many fish Canneries and Reduction Plants on the Pacific Coast are equipped with these Cooker and Press Units.

Typical Cannery and Fish Reduction Plant on the Alaskan Coast.



**Forged Pinions
and shafts by...**

"AMERICAN FORGE"

SINCE 1888

**speed the production of
Fish Oil and Fish Meal...**

Over 56 Years
OF

FORGING EXPERIENCE

together with modern and adequate equipment, are offered to the mining, oil, lumber, marine and industrial fields by the American Forge Company specializing in

GRINDING MEDIA

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STAMP MILL SHOES & DIES
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FORGINGS FOR

MILL ROLLS
DIESEL ENGINES
TURBINES
GEARS & PINIONS
MARINE & INDUSTRIAL SHAFTING
PIPE FLANGES

PRESS FORGED BARS & BILLETS

DROP FORGINGS

FORGINGS MADE TO
CUSTOMERS' SPECIFICATIONS

The production of Fish Meal and Fish Oil is a big industry on the Pacific Coast. The season is short and factories tucked away on the inlets along the Coast must work fast—they cannot have breakdowns. These Fish Cooker and Press Units made by the California Press Manufacturing Company of San Francisco are the latest development for this branch of the fishing industry. In them are pinions and pinion shafts which undergo unusual stresses—these vital parts are alloy steel forgings (heat treated) made by the American Forge Company.

Forging actually improves metals—makes them tougher by directing the fibre flow and concentrating the grain structure—reduces bulk of excess metal—saves time in machining and finishing—and there is an unusual freedom of concealed defects. The American Forge Company makes forgings for all kinds of industries. If you have a metal problem involving the use of forgings, write us—our Metallurgical Department will render a report without obligation or cost to you. We will gladly quote prices on forgings from ½ lb. up to 150,000 lbs.



**AMERICAN
FORGE COMPANY**

BERKELEY, CALIFORNIA



EDITORIAL COMMENT

A Year of Grace

INDUSTRY in the West, or rather that part of which it has grown up during the war period and has no prewar experience to look to, really has cause to be thankful than otherwise if kept on war production for another year or even longer, regardless of reconversion elsewhere in the country. During that period our manufacturers can be laying their plans and getting themselves into condition to face the following questions:

1. What products should be made? Is our plant adapted to making them, and can they be marketed?
2. Do we understand line production well enough to proceed on this basis in the future? Are we aware that jobbing shop methods cannot compete with line production?
3. Have we gained sufficient understanding of manpower and costs so that we can figure how many man-hours and dollars it takes to produce a pound of goods or equipment?
4. Are we ready to set up and carry on a sales campaign?

Manufacturers in the older districts of the country worked out these problems years ago for the most part, and unprepared Western competitors will be helpless against them. Our Western industrialists have accomplished wonders in a short time, and in many of their production ideas are far ahead of the rest of the country, but their future existence will depend to a large extent on whether they start preparing themselves now for peace-time production.

Things the Election Didn't Settle

LESSER candidates involved in the November election talked somewhat freely, yet without committing themselves definitely for the most part, about the future of our big Western war plants, but the presidential candidates discreetly steered away from the subject entirely. The Western industrial economy does not hinge on these war plants, but in the immediate postwar period they will be highly influential factors. Consequently the earlier public opinion in the West on this matter crystallizes, the quicker Washington will enunciate its policy.

Here are some of the main points at issue:

1. Will they be sold to the highest bidder, regardless of the effect on existing private enterprises, on the basis that they are war expenditures to be wiped off the books as soon as possible?
2. Will they be kept as standbys for future war needs, in such cases as such a step is practical?
3. Will they be used as WPA projects to provide employment during the expected slack period following demobilization?
4. Will the government engage more heavily in public ownership and operation than heretofore?
5. Will the government use them as pawns in an effort to steer (or perhaps control) the Western industrial economy, as exemplified in Secretary Ickes' refusal to deliver more Bonneville power to the Aluminum Company of America than he believed was good for the West?

The OPAque

SOMETIMES OPA ought to stand for "opaque." A Western concern with a number of suburban branches tried to conserve fuel and tires for the war effort by laying up most of its service cars, only to find the 400 miles per month allowed for the remainder insufficient to get over the ground. OPA's suggested remedy was to buy more cars, since the 400-mile rule was nation-wide and couldn't be changed, geography or no geography!

WESTERN INDUSTRY

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OUR COVER PICTURE

• Aircraft factories of the Pacific Coast are busier than ever, with continual demands from the government for more and bigger planes. On the front cover is shown a scene from Boeing Aircraft Company's Renton plant, just outside of Seattle, with a multitude of dorsal fins stacked in glistening symmetrical patterns. These are for B-29 Superfortresses, which have done such an important job in the Pacific.

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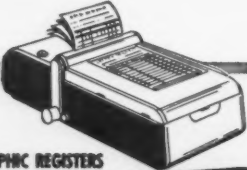
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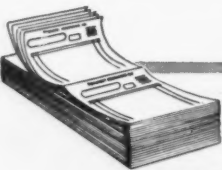
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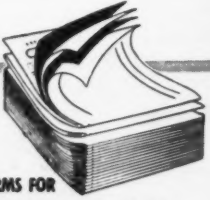
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① "I STILL HAVE THE JITTERS when I think of that old drive we had," this plant engineer told me. "Always breaking down right in the middle of a big rush job . . . never really operating right, it was the headache of the whole shop. We never got real production till we decided to put in that Chabelco chain belt drive."



③ "LOOK AT THIS DIAGRAM," I told him. "Look at that three-diameter pin with its milled ends that prevent it from turning in the side bars. Note the offset side bar construction, the high finished, case hardened bushings locked in the side bars and the other quality Rex features. It's built tough for tough service. That Rex design means far longer life and greater service."

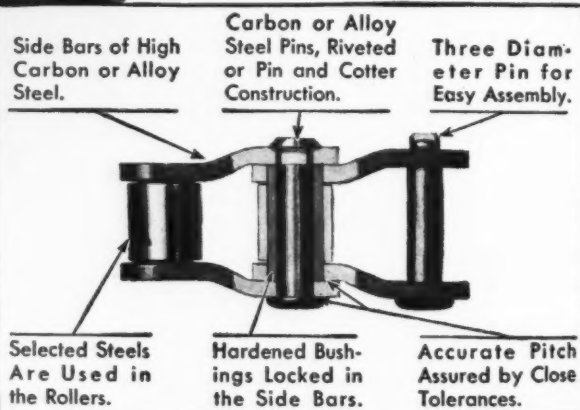
* * *

Rex Chabelco chain belts are the answer to any drive problem where strength and long life is needed. The Rex man can help you with your chain belt application problems. And for engineering data on Rex chain belts, ask for the 768-page catalog No. 444. Chain Belt Company, 1723 W. Bruce Street, Milwaukee 4, Wisconsin.



② "DID IT EVER FILL THE BILL!

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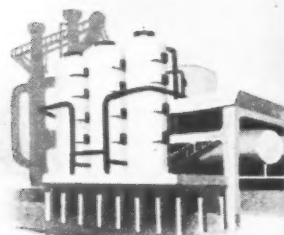
TO WEATHER POST WAR *UNCERTAINTY*

Naturally you want to establish yourself quickly and permanently in the post war era. To help you, Blaw-Knox offers engineering and products of wide range. It also has the facilities and personnel to manufacture for you, all or parts of your products.

One of the most important activities at Blaw-Knox is the Process Equipment Department, which among other things, specializes in the design and manufacture of equipment for the carrying out of chemical reactions by both the batch and continuous processes. This department is fully qualified to render a complete

service from building pilot plants to equipment for full scale production.

Blaw-Knox leadership in the origination and fabrication of products for so many fields of industry is a ground for confidence that it can be of help to you if your business comes within the scope of its activities. Many Blaw-Knox products now of international reputation were originated to fill the needs of one manufacturer. Perhaps the Blaw-Knox umbrella of industrial coverage can include worth while services to you. May we talk it over?



A chemical plant designed, fabricated and erected by Blaw-Knox for large midwest manufacturer.



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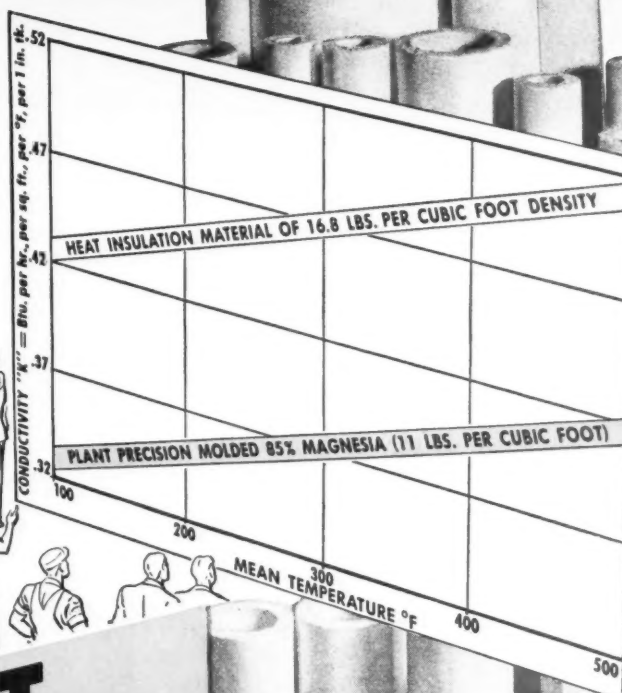
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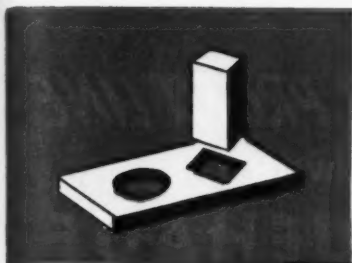


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1 MAN DOES THE WORK OF 3



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↓ Elevating Endgate stops automatically at bed level. Driver shifts load onto truck.



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WHAT IT IS—Briefly, the Fruehauf Elevating Endgate is a steel tailgate which acts as an elevator. It is hydraulically driven by power from the truck engine — conveniently controlled by two or more levers at rear of truck or Trailer. Heavy loads may be smoothly raised or lowered between ground and truck-bed level by the mere shift of a lever.

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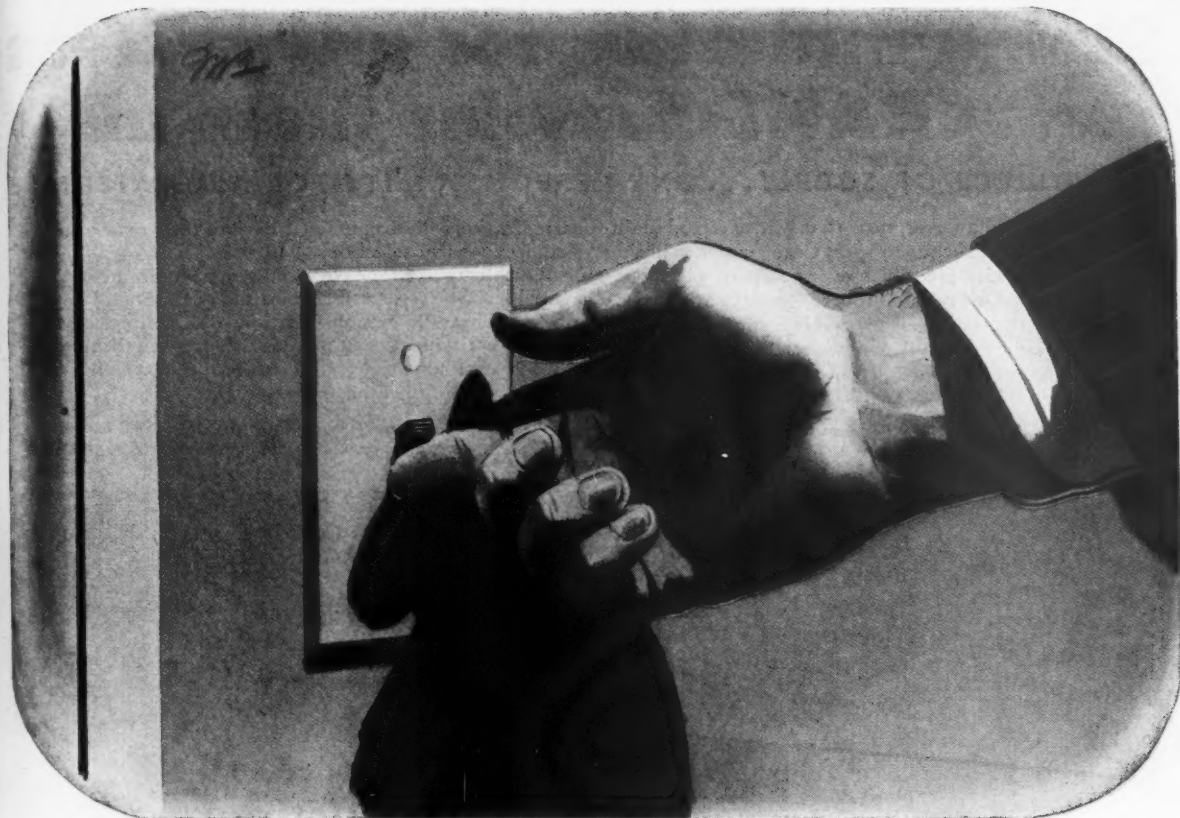
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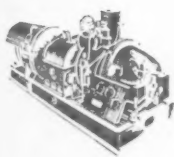


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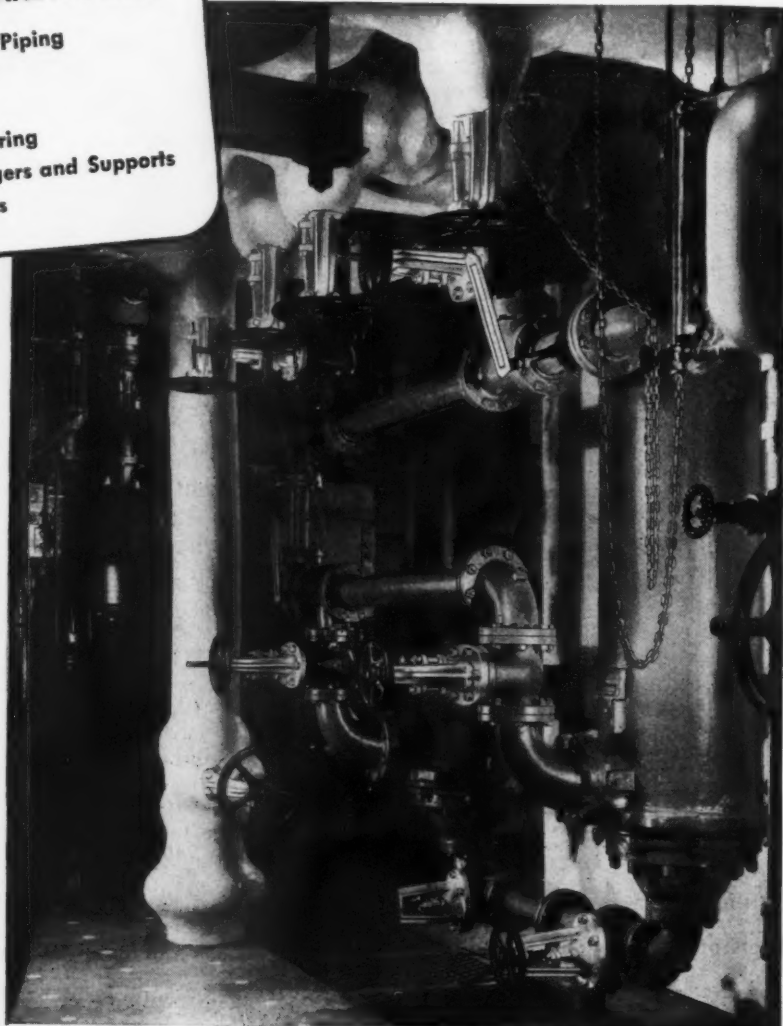
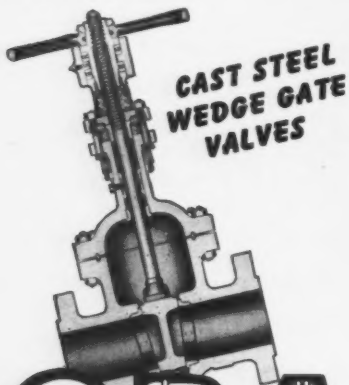
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The same high quality protects every part of piping systems when Crane materials are used throughout. In Crane Steel Gate Valves, for example, straight-through ports permit unrestricted flow. Severest line stresses are overcome by sound and rugged body castings. Smooth operation is maintained by a ball joint type stuffing gland, strong tee-head disc-stem connection, and ample stem bearings. Positive seating is assured by extra long disc guide ribs.



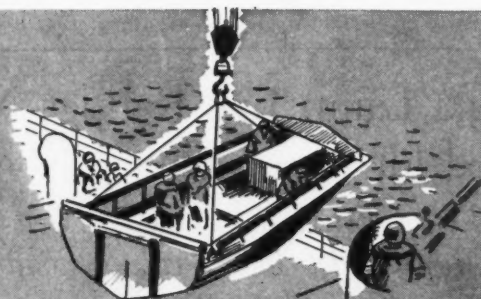
Installation in Industrial Power Plant

CRANE

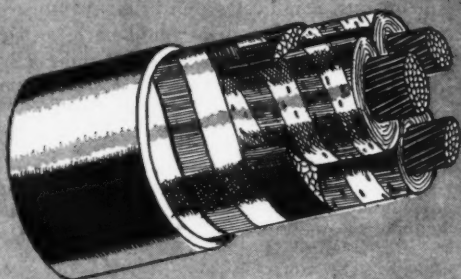
VALVES • FITTINGS • PIPE
PLUMBING • HEATING • PUMPS

4 Wire Problems Solved

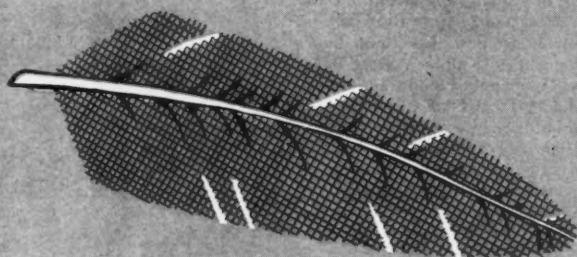
BY A SINGLE TRADE MARK!



LIFT for the vehicles of D-day is provided by thousands of specially-designed Roebling Slings that send aircraft engines and landing craft on their way. Does your job call for sling engineering?



POWER by the k.w. is surging to many a war plant through Roebling Shielded Type Paper Cables like this. Many an overloaded, overworked circuit can thank Roebling cables for continued operation.



FEATHERWEIGHT filters to keep dust out of bomber engines? Sure — Roebling's Woven Wire Fabrics Division turns out screen made of .010" diameter aluminum wires, 20 to the inch. What's your filter problem?



TOUGH armor for "BX" cable sounds like a routine job, but the Roebling flat wires that make it aren't manufactured that way. Roebling Rounds, Flats and Shapes hit "specs" on the nose, fabricate easily.

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Wire Rope and Strand • Fittings • Electrical Wires and Cables
High and Low Carbon Acid and Basic Open Hearth Steels
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SYLVANIA NEWS

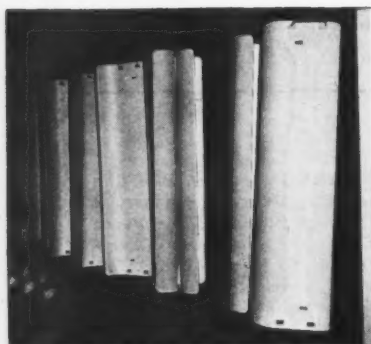
INDUSTRIAL EDITION

DECEMBER

Published in the Interests of Better Sight and Sound

1944

Plastic Finish for Reflectors Proves Tops in Efficiency



Sylvania reflectors coated with plastic finish emerging from a part of curing process.

After extensive study of fluorescent fixture reflector coatings, Sylvania has standardized on a plastic finish of exceptional hardness, flexibility, and light reflecting efficiency. This finish—not an ordinary paint—is produced by the polymerization, under a unique heat treatment, of different molecules to form a new chemical compound.

This plastic finish has proved far superior to paint in its resistance to moisture and corrosive vapors. It is more flexible than vitreous enamels, and withstands distortion and bending more successfully.

DID YOU KNOW...

That Sylvania Near Ultra-Violet Lamps are used to illuminate the fluorescent dials on airplane instrument panels? By using proper filters, pilots can adjust the brightness of the dials.

* * *

That one of the possible postwar applications of television is in the inspection of inaccessible parts or hazardous processes? Inspection can be carried on at a point remote from the actual material.

Sylvania Lamp Life Ratings Newly Defined for Long Time-on Cycles

Lower Estimated Costs Foreseen for Many Practical Operating Conditions

A more exact definition of the life ratings of Sylvania Fluorescent Lamps, based on a longer cycle of operation, indicates that in many industrial applications lamp life may be considerably greater than would have been expected under previously published ratings. Plants considering installations of Sylvania Fluorescent Lighting will frequently find that these

new ratings permit substantially reduced estimates of the probable over-all cost of fluorescent, placing this illumination in an even more favorable cost position.

Heretofore, the life ratings of Sylvania Fluorescents have been based on a 3-hour

BOOKLET TELLS OF STROBOTRONS

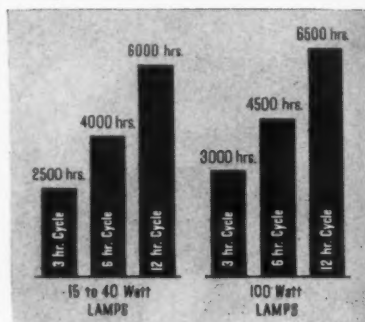
The characteristics and applications of Strobotrons—tubes which produce sharp, brilliant flashes of light—are described in Sylvania's recently issued Special Electronic Products Bulletin. Strobotrons have found their most important application in the study of rotating and reciprocating motion.

The Bulletin also describes Pirani Tubes for measurement of vacuum, Voltage Regulator Tubes, Blacklight Lamps, and Standard Germicidal Lamps, all of which have interesting industrial potentialities.

Copies of the Special Electronic Products Booklet may be obtained free of charge by writing Sylvania.



"It's that coal mine again. Sylvania Fluorescents boosted output so much in their office, they want to know if we have anything for the miners' caps!"



Comparative life ratings of Sylvania Fluorescent Lamps for burning cycle times of 3, 6 and 12 hours, showing effect of longer time-on cycles.

cycle; that is, on turning the lamp on and off every 3 hours.

In actual industrial plant practice, lights remain on for much longer periods than 3 hours. This longer time-on cycle is reflected in increased life expectancy.

Ratings have therefore been determined for 6-hour and 12-hour cycles, which are more often encountered under practical conditions. As shown in the graph, these cycles permit much more favorable life estimates. For instance a 40-watt lamp burning 8 hours a day, 5 days a week (the normal peacetime work-week) is rated to last approximately 2 years.

SYLVANIA ELECTRIC

PRODUCTS INC.

Salem, Massachusetts

MAKERS OF FLUORESCENT LAMPS, FIXTURES, ACCESSORIES, INCANDESCENT LAMPS, RADIO TUBES, CATHODE RAY TUBES, ELECTRONIC DEVICES

THOMAS TRUCK

of Keokuk



SAFETY ONE MAN BARREL TRUCK

A Faster, Safer, Easier Way To Handle Barrels

- For drums - barrels - kegs
- Trucker never touches barrel
- Automatic loading - unloading
- Sliding two-in-one hook
- Safe—no backstrain
- Balanced—truck carries load
- Easy rolling—Hyatt bearings
- Lifetime use—welded steel

Easy to handle. Rapid operation and safe for the trucker. Handles steel drums or wood barrels regardless of the bilge size up to 1000 lbs. Narrower than its load, will handle barrels between tight packed rows and spot them without rocking or lifting. The 2-in-1 chime hook adjusts to various heights for barrels of different size. Automatic loading and unloading, balanced so that "breaking" over the load is easy and the load is carried by the truck—not on the trucker's arms.

Over 1000 different "Job-Suited" superstructures for Thomas 4 wheel trucks illustrated in Thomas new catalog No. 43. A few of them are shown around the border of this page . . . Write for catalog today.

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Hardwood or steel frames . . . balance or non-tilt types . . . 4 & 6 wheel . . . 11 platform sizes . . . over 20 capacities.



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Hardwood deck, with or without steel frames . . . standard models, heavy duty models and the new lift truck Jak-Tung.



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5th Wheel Wagon truck. Hardwood or steel frames. 10 platform sizes, 10 capacities. . . Also Safety Wagon trucks in 15 platform sizes.



TRAILERS
Industrial foundry and warehouse trailers. 5 basic models. 7 capacities. Manual and automatic hitches.



DOLLIES
Hardwood and steel. Balance and non-tilt types. 4 and 6 wheels. 15 types.



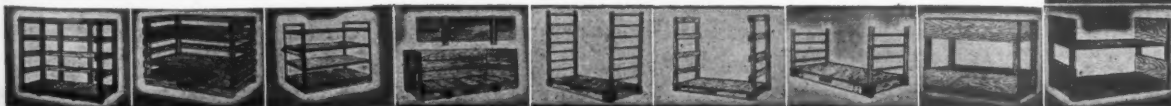
2 WHEEL TRUCKS
Hardwood and steel frames. For every material and freight handling job. 46 types.



CASTERS
A major part of our business. New catalog illustrates 18 different casters in hundreds of sizes.



WHEELS
Metal and rubber in a dozen types and in hundreds of sizes.





Insured for Long Life

What would you pay for insurance that would positively prolong your life? Such protection for human life is not yet possible. But for vital equipment and structures in chemical plants, there is a proven protection... available now... against that industrial cancer, Corrosion. This proven protection is Amercoat

Plastic Coatings.

Amercoat is dependable insurance against the destructive action of chemicals and chemical compounds such as caustics, sugars, nitrates, salts, acids and alkalies. It protects scrubbers, blowers, steelwork, tanks, buildings, roofs, cooling towers, floors, walls and other essential facilities.

Odorless, tasteless, chemically Amercoat is easy to apply, by spray or brush to metal, concrete or wood. It provides dual protection against corrosion and contamination.

Wherever used, as a lining, Amercoat means: "Insured long life against waste, wear, tear and replacement from corrosion."

Write for illustrated

"A NAME EVERY ENGINEER SHOULD KNOW"

YOUR ASSURANCE OF 100% RESULTS

Your letter explaining your particular problem will receive the attention of our technical staff. Amercoat will be recommended for your use only after thorough analysis or past experience definitely proves its practical value. Descriptive booklet sent on request.

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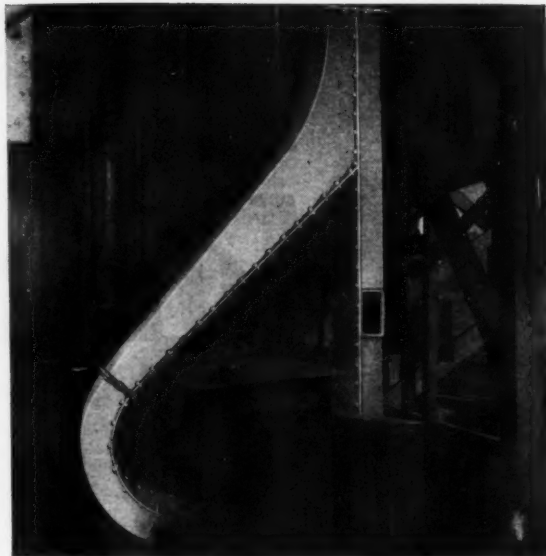
This advertisement, part of the 1944 Amercoat campaign, conforms to the highest precepts of sound industrial advertising by *selling results rather than products!* It was developed on four proved principles.

First, each advertisement presents either a benefit derived by the use of Amercoat, or a possible hazard because of its non-use.

Second, it's tailor-made, both in art, headline and copy, to fit some 27 *specific* markets.

Third, it makes *specific* claims. *It does not deal in generalities!* It says something that the reader might not know... something that may help him solve his corrosion problem.

Fourth, it conveys its selling message not alone in terse, concise, *unexaggerated* copy claims, but in dramatic art treatment tempered with conservative, dignified layout.

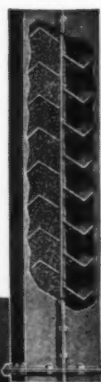


HANDLING SAWDUST IN AN OREGON MILL
 Right: General view of Bulk-Flo unit which elevates sawdust from a chain drag conveyor under storage bins to a similar conveyor to processing machines.

Above: Close-up of loop end of Bulk-Flo which receives the sawdust from chain conveyor. Note inspection window in vertical leg.



An Elevator, A Conveyor and Feeder In a Single Unit



Material is carried in a succession of compartments in a dust-tight casing. It moves in a continuous mass. Bulk-Flo flights are peak-shaped, self-clearing, trouble-free.

Loading run of Bulk-Flo units shown below. Units are suspended from ceiling, loading from storage on floor above. Light weight makes heavy supporting structure unnecessary.



● Bulk-Flo cuts handling costs, protects and conserves materials, and saves space. It cuts breakage, degradation, leakage, contamination, reduces fire and explosion hazards. It moves materials in compartments, like an endless train—horizontally, vertically, around curves, up inclines, or in a combination. It may be arranged with loops; may load or discharge at one or several points, and is self-feeding.

Bulk-Flo has inherent high capacity. Its cross-sectional area is about 1/5 that of a bucket elevator, 1/4 that of a flight conveyor, 1/3 that of a belt conveyor. It conveys any flowable granular, crushed, ground or pulverized material of a non-corrosive, non-abrasive nature, under all conditions of loading. Send for book No. 2075.

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9750-P

LINK-BELT
Bulk-Flo
ELEVATOR-CONVEYOR-FEEDER

**"A name worth
remembering"**

Fairbanks-Morse

To search constantly for ways to improve is a basic Fairbanks-Morse policy. Development work goes on continually in our research laboratories—in good years and bad, in time of peace and in time of war. During the months and years ahead this research will yield a rich harvest to users of scales, Diesels, generators, motors, or pumps.

R. H. Morse Jr.
General Sales Manager



Sturdily built without springs or delicate parts, Fairbanks-Morse Scales are more than highly accurate weighing instruments. In their countless types, styles, and modifications they weigh while materials are moving, furnish printed weight records, count small parts and products, weigh and disburse preset amounts automatically, and can keep ingredient proportions secret.

**Fairbanks, Morse & Co.
Chicago 5, Illinois**

Scales

Diesel Locomotives • Diesel
Engines • Generators • Motors
Pumps • Scales • Magnetos
Stokers • Railroad Motor Cars and
Standpipes • Farm Equipment

BUY MORE WAR BONDS

© 1944. Fairbanks, Morse & Co.

Spotlight on the NEWS

Take Lead for the West

Industry may be a long time getting together on plans for presenting a united Western front on the economic problems ahead, but the chambers of commerce in the West are not. They have already organized the Western Regional Council (see pages 25-26) composed of chambers from all over the eleven Western States, and will hold their first meeting at Salt Lake City in February to discuss, among other things, the postwar steel question. Many industrialists look askance on "chamber of commerce stuff," but until they do something themselves they are in no position to complain about others who are more enterprising.

Manageless Management

Management can do almost anything to day except manage its own plants, according to some of the opinion voiced at the Pacific Northwest Personnel Management Association meeting at Seattle in November (p. 27-30). The reason given is that the foreman has been so stripped of authority as to be virtually helpless. At this convention two predictions of interest regarding the future were given, (1) that postwar wage levels will be fixed on a basis of how large a share labor must have in order to maintain a stable national economy, (2) that women mostly are in industry because they have to be, and that they are going to insist on far more equality than they have yet enjoyed.

Roses and Thistles

One of our readers says that our railroad freight article, the first installment of which appeared in the November issue, can be construed either as a pat on the back for the railroads—or something else. The second installment (pages 31-33) seems to verify the assertion. After carefully pointing out that rates to the Pacific Coast

have been held down by water and truck competition as compared with rates to the intermountain area, and that traffic density in the coast states also has been a factor, the traffic expert who is writing this article says that, on the other hand, the railroads have hardly given sufficient consideration in their rates to the tremendous improvements in operating efficiency that have been brought about in recent years.

Customers for Steel

Right now the West has more experts to the square inch on the postwar future of the Geneva and Fontana steel mills than it has people who know when the war will end. So in the midst of such forecasting, someone that can tell us who will buy the postwar steel is worth listening to. One such person is Columbia Steel Company's chief metallurgist, who describes some of the main Western outlets (p. 34).

Safety on the Waterfront

When goods are increased, increased are also they that eat them, says the proverb. Along with the widespread use of lift trucks and other mechanical materials handling equipment have arisen a great number of accidents due to carelessness. The question has become so serious that safety campaigns are under way (p. 36, 38) in waterfront circles on the Pacific Coast to stop such practices as riding on the forks.

Not Folding Up

Southern California cities have some very definite industrial development ahead of them, rather than retrogression, the C.E.D. has ascertained (pages 48-50). Going over the various cities, one by one, it finds that closing down aircraft plants and shipyards is not going to be the finale for industrial activity, but rather the curtain-raiser for new developments that have had to be held in abeyance during the war period.

Reconversion Plans

The spot authorization plan is steadily being refined back at Washington, largely through the steady pressure of the Smaller War Plants Corporation, our Washington correspondent reports (pages 40, 42) and the country gradually will feel the benefit, although to date spot authorization has not greatly affected the industrial economy. Our Portland correspondent points out (pages 44-46) that one firm after another that has received such authorization has been unable to do anything with it, for lack of manpower or materials. Spot authorization listings appear on pages 54 and 55 of this issue, and also in the West on Its Way section. Hereafter they will appear regularly in the West on Its Way.

Manpower as an Asset

In Seattle postwar thinking is running along the line of considering surplus manpower as an asset, rather than a liability. Consequently plans are under discussion there (page 40) for having each firm employ its share of the total unemployment load, not as a charity proposition, but rather as a means of adding manpower with which to develop additional business.

Surplus Facilities

Defense Plant Corporation has issued its first listing of surplus facilities, a formidable book. But DPC says listing a plant does not mean it is going to be sold at the present time; rather, it is merely a listing that may apply when and as such facilities are no longer needed. The list for the eleven Western States appears on page 56.

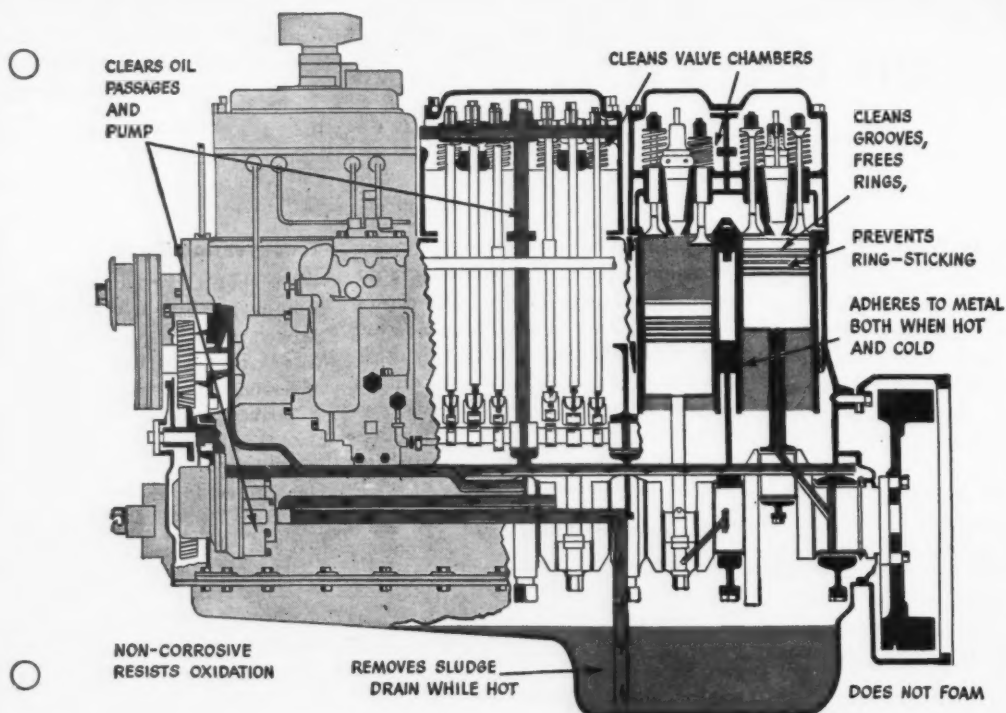
War Labor Board Report

What you see in the newspapers is not necessarily the most important thing that is happening on the War Labor Board. Western Industry is now beginning (p. 60) regular coverage of some of the most significant developments that affect industrialists in the West.



STANDARD ENGINEERS NOTEBOOK

VOL. I, T. NO. 12



Removing deposits in Diesel engines without operating delay

Clean carbon, sludge, gum and other harmful matter from Diesel truck engines without tearing them down by purging with RPM-DELO Diesel Engine Lubricating Oil.

It will even loosen stuck rings if they are not cemented in too tightly with accumulations of sticky, burned-on gum.

Selected base oils plus patented compounds give RPM DELO the ability to act on and remove carbonaceous deposits and keep them in suspension so they can be drained from the engine. The recommended purging procedure follows:

1. Drain present oil from crankcase while hot. 2. Renew filter element to trap abrasive particles that may be

carried into circulation during purging. 3. Fill crankcase with RPM DELO. 4. Run engine at a fast idle for two hours, maintaining water jacket temperature of approximately 200° minimum. 5. Drain again while hot and refill with RPM DELO. 6. Place engine in regular service and drain at one-half normal drain period or 750 miles, whichever comes first, for two or three drains. Check oil frequently as removal of deposits may temporarily increase oil consumption. 7. Drain while hot. Check oil filter and replace when necessary. 8. Refill with RPM DELO, returning to regular oil drain and filter change period, and continue to use RPM DELO.

Standard Fuel and Lubricant Engineers are always at your service. They'll gladly give you expert help—make your maintenance job easier. Call your Standard Representative or write Standard of California, 225 Bush St., San Francisco 20, California.

STANDARD OF CALIFORNIA

ORGANIZATION FOR UNIFIED WESTERN ACTION CREATED..

Western Regional Council Crystallizes Need for Expressing Regional Entity, Solidarity and Economic Unity of Coast and Mountain States

WHEN the keel of the good ship "Western Regional Council" was laid by representatives of chambers of commerce of the eleven Western states in October, the West took united action for the first time in history. Ever since the war began, grunts, sighs and stretching have betokened the West's gradual awakening to its regional entity, solidarity and natural economic unity. Now it has opened its eyes wide and said "Let's go."

Because of the tremendous economic problems facing this area, both in the final stages of the war and afterward, it seems

inevitable that the new organization will be a key factor in reaching a common understanding on many vital points and in promoting the interests of the West at Washington.

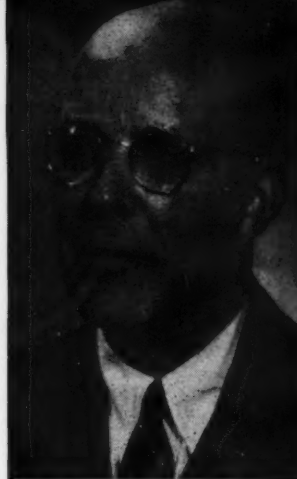
Already the Western Regional Council has tackled one of the outstanding Western questions—whether the West can support an integrated postwar steel industry. A report on this momentous issue, involving the future of the giant Geneva mill in Utah and perhaps also the Fontana mill in southern California, will be presented at the first meeting of the Council at Salt Lake City on or about February 12. A research man

from the Battelle Institute is engaged on the task.

This Salt Lake City meeting promises to be a historic occasion. Except for the steel question, the program was still under wraps at this writing, but it was known that it would be of the brass-tacks variety, dealing with immediate problems of wide interest.

The Council will be made up of all chambers of commerce in the West wishing to join—a potential of about 500—with its board of directors composed of two representatives from each of the eleven Western states. Christy Thomas of Seattle is its





• OFFICERS OF WESTERN REGIONAL COUNCIL. From left: Christy Thomas, president, Seattle; Gus P. Backman, Salt Lake City, and Leonard E. Read, Los Angeles, vice-presidents; F. W. Mathias, Olympia, secretary-treasurer. The directors are: Washington: James A. Ford, Spokane, T. A. Stevenson, Tacoma; Oregon: Arthur Farmer, Portland; Fred Brenne, Eugene; California: Louis Lundborg, San Francisco, L. L. Wilder, Long Beach; Arizona: Henri Behoteguy, Phoenix, C. Edgar Goyette, Tucson; Colorado: Ed Folbrecht, Greeley, P. A. Gray, Pueblo; Idaho: J. R. Gobble, Idaho Falls, Paul Nash, Pocatello; Nevada: Simon Euchner, Las Vegas, E. H. Walker, Reno; Montana: K. E. Burleigh, Glendive, W. G. Ferguson, Helena; New Mexico: M. L. Woodard, Gallup, Claude Simpson, Roswell; Utah: E. J. Feldsted, Ogden, M. R. Harvey, Logan; Wyoming: Robert D. Hanesworth, Cheyenne, Arthur Sherwood, Sheridan.

president, Gus P. Backman of Salt Lake City and Leonard E. Read of Los Angeles, vice-presidents, and F. W. Mathias of Olympia secretary-treasurer. The board of directors is composed of two representatives from each of the eleven states.

Several factors combined to bring about the creation of the Western Regional Council. Chambers of Commerce of the leading Pacific Coast cities met in San Francisco in the fall of 1943 and reached a basis of understanding that has enabled them to act unitedly on various questions. Five of the coast chambers—Seattle, Portland, San Francisco, Los Angeles and San Diego—maintain staff men at Washington who cooperate closely, in fact hold weekly meetings.

These cities, on the other hand, could not effectively claim to represent the entire West, or even to speak for all of the Coast. The eight mountain states, on the other hand, have for some years been organized into the Inter-Mountain Association, but they in turn have not been represented at Washington.

So the Coast and Intermountain areas obviously needed each other's support, and at the annual meeting of the National Association of Commercial Secretaries in Denver a year ago, an organization of the eleven states was proposed by Christy Thomas of Seattle. The time was not ripe, however, and the plan was laid over until the commercial secretaries met this year at Kansas City. Again it was brought up, this time with success.

When the steel industry research was proposed at Kansas City, the Coloradans at first objected, on the ground that the organization should not become a chestnut-pulling body for one Western area against another. When it was brought out that the Colorado Fuel & Iron Co. and Geneva

Steel Company are not logically competitors of each other, the objections subsided.

A steel committee was then appointed, composed of Gus Backman, Leonard Read and Louis Lundborg of the San Francisco Chamber, and they met in San Francisco October 30 to get the research project under way.

The need for overcoming sectional strife, and the possibility of accomplishing it, were made manifest to Christy Thomas when the fight was made to establish a Pacific Northwest district for the War Production Board. Donald Nelson told him it could be done only when Spokane, Seattle, Tacoma and Portland could get together—an apparent impossibility, in Nelson's eyes. Much to his surprise, Mr. Thomas came back a few weeks later with all four cities in harmony, and the Seattle WPB office was set up.

Agreement between cities to let logic prevail, rather than selfish individual desire, has become an accepted thing in some sections in the West. Oregon presents a conspicuous example, where all other cities withdrew from the field and let Albany have the Bureau of Mines laboratory. Similarly it was obvious that Eugene was the logical spot for the wood wastes recovery plant and Salem for the alumina factory.

Over a wider area, however, there has been no effort to work out agreements on industrial development based on the economics of the situation. This defect the Western Regional Council hopes to correct.

Various industrialists and some others have offered the opinion that the Council had "two strikes on it already" by virtue of being an organization made up of chambers of commerce. What good purpose can a chamber of commerce, with its historic propensity for trying to bring home the bacon for its home town whether the town

was entitled to the bacon or not, serve in regard to regional questions that economics alone will determine? they ask.

Obviously, if the Western Regional Council simply becomes a super-chamber-of-commerce of the old type, it will not last. But in view of the thorough fashion in which many Western chambers of commerce have embarked on economic research, in order to determine the logical lines of development of their communities, it seems probable that the Council will work along the same lines.

As for pure economics determining the fate of Geneva, the aluminum industry of the Pacific Northwest, the synthetic rubber project in southern California, and many other big enterprises that the war has brought into being years earlier than otherwise would have been the case, the Council officers point out that the determination of these questions lies in the hands of Washington.

If the West can adequately and intelligently plead its case at Washington, they say, there is far less likelihood of these enterprises being disposed of unwisely.

Another problem to be dealt with is the resentment aroused in the East, particularly New England, over the recent proposal of Senator McCarran of Nevada, as head of the senate industrial decentralization committee. This was that Congress freeze all government-owned war plants in 11 major Eastern states after Germany's defeat to prevent further concentration of private industry in those states. Although no one in the West took Pat McCarran's brainstorm seriously, the New England Council has been up in arms over it.

Considerable testimony regarding Western industrial conditions was given at a hearing conducted by this committee in San Francisco November 16-18.

Personnel Management Trends As Seen at Seattle Meeting

AT THE Pacific Northwest Personnel Management Association conference at Seattle October 26-28, discussion centered around (1) the present unsettled status of the foreman and supervisor, (2) effects of the postwar readjustment period on wages and employment.

Panel sessions rather than a series of formal papers were used to bring the subject matter before the members, and the result was accepted as highly satisfactory. The president and past president of the association, Lieut. (jg) R. A. Sutermeister, personnel relations officer of the Seattle Naval Supply Depot, and Robert A. Bingham, personnel director of Bingham Pump Co., Portland, orientated the conference at the outset in talks outlining the scope and trends of personnel management.

Summaries of some of the subject presentations are given in the following pages devoted to the conference.

Foreman on Spot

Carroll French, industrial relations director,
Boeing Aircraft Company

MANAGEMENT has failed to realize what has been done to the foreman to keep him from running his shop through

the development of the shop stewards and shop committees. After the passage of the Wagner Act one major oil company was so fearful of violating the law that it stripped the foreman of all information and authority, so that they couldn't even keep people from quitting early, consequently they could not function at all.

The question must be decided as to how far you are going to let the foreman be responsible for labor relations. One school of thought says he can't handle that and production at the same time, so they free him from everything but production and then set up a new authority, a labor adviser. In some notable instances, like the automobile industry, neither the unions nor the arbitrators wanted grievances taken out of the hands of the foreman, but management unwisely did.

Too many of us personnel men have grabbed for this authority, have been all too quick to put ourselves into grievance adjustment, instead of spurning these line functions. To the extent that we take authority from our foremen, we weaken our organization.

Foremen have gotten the feeling that they are orphans, with no contact with top management. Getting the foreman into the

union fits in with the policy of industrial unions to get control of the business, and some day we will be forced to decide whether we can employ foremen who are members of the union.

In a constructive labor relations program there are the following "musts":

(1) Management must set up a system and assign someone in the operating organization to be responsible for assisting the general superintendent in the training and upgrading of supervisors. It cannot be the personnel department. It calls for a new wrinkle in management, for someone who has come up through the organization and commands general respect.

(2) Strong management all down the line. The weakest link is now the supervisors.

(3) Training and upgrading must fit the situation. No canned course will do the job.

(4) Management must be prepared to clarify its thinking and tell its foremen what its policies, methods and plans are. Many companies have avoided foreman training because they couldn't answer the questions the foremen were sure to ask.

(5) Supervisory contact with top management. Good management men are never too busy to do what is necessary along this line.

(6) When reductions come back and foremen have to go back to the ranks, where do they get off? Nothing has been done about the seniority status of foremen. Will management stand up for their foremen? If they do not, the foremen will be working for the union rather than for management.

* Glimpse of one of the banquet tables at the Pacific Northwest Personnel Management Association convention at Seattle. Far side of table, from left: H. N. McCollom, War Manpower Commission; J. M. Tedford, Mrs. Berney, V. C. Gault, Mrs. Gault, all of Crown-Zellerbach Corporation, Camas, Wash.; A. A. Larsen, Boeing Aircraft Company, J. S. Carlson, Pan-American Airways; Henry Rydeen, Edna M. Gibson, both of Boeing. Near side of table, from left: Mrs. Herbert Dobb, Western Gear (hubby is out of sight, at the left); Earl Ketcham, National Foremen's Institute; Miss Elizabeth Jeffries; Jesse H. Bond, University of Oregon.





• Part of speakers' table at Seattle personnel management convention. From left: Walter Wolfe, Kaiser Co., Portland; Mrs. Arnold, Claude F. Arnold, Seattle Civil Service Commission; Sheldon F. Kiser, First National Bank, Spokane; Franklin Thompson, president, College of Puget Sound; Lieut. (jg) Robert Sutermeister, president, Pacific Northwest Personnel Management Association.

SEATTLE PERSONNEL MEETING

The Supervisor

Earl E. Bennett, supt. of training,
Todd-Pacific Shipbuilding Co., Tacoma

THERE are five major responsibilities of the supervisor:

- (1) Leadership
- (2) Planning
- (3) Giving direction and conducting training
- (4) Knowing his own responsibilities and the limitations imposed by company policy.
- (5) Being a successful workman, knowing the work of the craft he is supervising.

No one type of training for supervisors can be the answer. We have specific programs to deal with all these responsibilities. Responsibility for both personnel and production should be squarely on the shoulders of the foreman. If he is capable, he will utilize the personnel and other services with which the plant can help him.

We do all supervisory training on company time because we have a transportation problem. If we did not have we would ask him to do it on his own time because the training is to his advantage.

Basically it is wrong for the ordinary workers to get more than supervisors, but if it is an extraordinary situation, due to the war situation, I would do some flag waving and remind the unfortunate person that we all have to make some sacrifices at present.

Line Set-Up

Victor C. Gault, personnel supervisor,
Crown-Zellerbach Corp., Camas

THE ONLY personnel program that will continue is one that is handled by the line and not by a centralized personnel department. My concept of personnel management is handling personal relations, assisting and helping the line. The clean-up man is entitled to just as much consideration as the people in the top offices in observing rules and privileges.

Unions should not limit the possibility

of their men to advancement. When the unions once stopped advancement in our own company, I merely told a few of the men that we would have to look outside the company for supervisors in the future, and they promptly took care of the matter so that the union changed the agreement.

Conference Method

Harold Gowing, personnel manager,
Iron Fireman Mfg. Co., Portland

CANNED material on training only sets forth principles of training, but it can be used as a springboard for discussion in conferences. We believe foremen should not conduct conferences, because one of the most useful purposes of such meetings is to allow people to blow off steam about the people just above them, and you can't accomplish this if the superior is present. We have outside conference leaders.

We believe seniority should be considered for appointments, but it is not necessary the governing consideration. I do not believe a union committee should be consulted before a foreman is appointed; the less the union has to say, the stronger your organization.

Choosing Foremen

R. J. Hibbard, shop master,
Puget Sound Navy Yard

WE ONLY appoint foremen who are satisfactory to the union and employees as well as to management, because they must respect his ability as a leader, his character as a just man, and his competence to administer and interpret management policies satisfactorily.

Unions insist on seniority for supervisors because of their past experience with capricious foremen. You can't appoint the right type of man from management's opinion only. If you appoint a supervisor whom the men do not know and respect, he will be on trial with them, and the man who expected the appointment and failed to get it is hurt. His morale is destroyed. The shop will gang up to defend their

man and make a failure out of yours.

I am opposed to trying out men for supervisory jobs. You should know ahead of time who is the best man. Certain jobs naturally lead to promotion, and when these selections are properly made fellow workers will respect the choice, particularly if you call in the disappointed ones and explain the reasons for your action.

If a worker is forced to take training and promotion comes as a result, he doesn't get the exhilaration of landing the job by his own efforts. It is management's prerogative to appoint, but it is not discreet to ignore the feelings of the shop. If your methods of promotion become known and then you select someone else, it creates fear in the hearts of the rest as to how promotion is governed.

Wage Ladder

J. M. Tedford,
Crown-Zellerbach Corp., Camas

THERE are not many real job analysts in the country, but in our company our analyses are so carefully worked out that the War Labor Board accepts them without question.

Our wage structure is like a ladder, with common labor constituting the base and the rising steps representing the wage levels set by the paper industry and the unions through negotiation.

Skills, responsibilities and working conditions each add to the base rate. Our step values at $2\frac{1}{2}$ an hour. The job analysis board in our industry goes to each plant and both management and labor representatives check up with both the man himself and the foreman. We all know what we have when we get through with the job.

Job Inequalities

H. R. Sprinkel, administrative officer,
War Labor Board, Seattle

INTRA-PLANT inequalities, where the wages do not express the difference in social significance, are the hot spot of wage troubles, the War Labor Board has found. Nothing causes more trouble than that. Each rate of wages becomes a status level,

and workers seek higher wages not only for the money itself but for the satisfaction coming from being on a higher rate.

In deciding wage increases, the three most frequent questions involved are: (1) what is the job? (2) what does it pay? (3) how well is the employee doing it? In keeping records of this, the federal government is about 20 years ahead of business.

Most firms haven't even begun to think about classifying jobs in the white collar class. While employers groan about the burden of filling out job descriptions, these may be very enlightening, not only to the government for guidance in deciding on a wage increase, but to the management in ascertaining who is really carrying the load in the office. Classifications must recognize, however, that a job is always fluid because of the change in work, and reclassifications should be made every few months.

From the Employers

Frank P. Foisie, president,
Waterfront Employers Assn. of the Pacific

WE want responsible, strong unions, but with responsibility the prevailing characteristic, and a sound interest in the welfare of the industry. Unions cannot progress by producing less and less. Industry has created most of its own troubles with government, and there must be more cooperation between competitors in working out the problems of the future.

Labor Viewpoint

Verne Burch, business agent,
Aeronautical Mechanics Lodge, Seattle

ORGANIZED labor is not in favor of frozen rates for jobs. We realize there has got to be appreciation for the one who puts out more work. Merit increases should be approved jointly by management and the union. Unions have objected to them in the past because the boss was the only one who decided the matter.

*The three facing the camera are Geo. W. Hutton, Oregon Safety Assn., William Noel of Alcoa's Troutdale plant, and Kathryn B. McCall of Sears, Roebuck & Co., Portland.



* Only three people are identified in this picture. They are the two men on the left of the far side of the table, R. G. Berger and John L. Aram of Potlatch Forests, Incorporated, Lewiston, Idaho, and (right) Nina F. Winn, King County Welfare Department, Seattle.

There should be a maximum and minimum rate within each job title, because a spread is desirable. Merit and seniority must be divorced so that promotion goes by merit, but seniority must continue in order to take care of the faithful employee.

At the Boeing plant job evaluation is worked out by a committee of three from management and three from labor. This has resulted in much work simplification, but it has this pitfall, that if it reduces the skill required an employee will not want to chop his own head off by encouraging the simplification.

Future of Wages

Robert Line, Stabilization Director,
War Labor Board

WE ARE at the cross-roads of decision whether we can give up wage controls after the war, or whether such a step will bring on such a gigantic economic upheaval due to collapse of purchasing power that control is inevitable.

In this region we have been holding conferences where industry argues that the hourly wage rate will continue, but the take-home will be less. The following factors are to be considered:

(1) Disappearance of overtime, through re-

duction from the 48-hour week to 40 hours. This would amount to 23 per cent reduction in wages.

(2) Partial elimination of shift differentials, because most plants will go back to a single shift.

(3) Down-grading of workers, just as will take place in the military establishment.

(4) Lower wage rates.

Labor is now receiving 61 per cent more than in the immediate pre-war period, due mostly to overtime, shift differentials and upgrading. In many families the index is 300 compared to what the father got before the war, because now everyone in the family is working.

Labor says that if we have to accept reductions and pay the present income taxes, purchasing power will be so decreased that there will be a depression. Industry says we must cut back from a 48-hour week to 40 hours.

Obviously the thinking of the two groups is very far apart. My own thoughts regarding the situation are:

(1) I believe the country will not stand for another 1933 depression. We have got to realize that a depression is man-made, not God-made, and that man can stop it.

(2) The production per man-hour in the United States is so high that government will feel we can insist on a high take-home.

(3) We are going to start to solve the problem by first figuring out what portion of the national income has got to be in circulation to maintain our economy. Next we will study to see how much of this must be distributed in the form of wages to have a successful and prosperous country.

This is a backward approach to the situation, as contrasted with our previous ideas, but we will have to control many things and our thinking is going to proceed from that angle, rather than trying to decide whether a man gets \$1 an hour or \$1.25.

(4) Some sort of wage control will evolve. One side or the other will constantly demand it. Today labor is demanding it, but the time is coming when labor will demand a floor under wages, and industry will want controls. The question is, how are we going to get this control with the least amount of bureaucracy and red tape? How can we allow economic forces to have play and still maintain prosperity?

Army Studies

Prof. E. R. Guthrie, University of Washington,
president American Psychological Assn.

THE reason the Army permits no polls or interviews with soldiers as to what they are thinking is that the Army is doing a thorough job along that line itself,

(Continued on Page 30)



SEATTLE PERSONNEL MEETING

(Continued from Page 29)

embodied in a monthly report to the General Staff entitled "What the Army is thinking."

Sixteen out of 20 questions asked by soldiers involve relations with their officers, and the time will come when every business, every city government and other large employing organization will have a similar continuous method of keeping in touch with the attitude of its employees.

In many plants there is not only a breakdown of contact between management and labor but also between supervision and management. This tendency to break communication is common to any line organization. In a small organization the personnel man himself can spend enough time in the plant to find out what the men are thinking.

Postwar Unions

John Bagwill,
Rayonier, Inc., Hoquiam, Wash.

OSTWAR strength of unions will depend on the service they give in a downward economic situation. The word "strength" infers moral fibre, and the strong unions will be those that think in terms of the fundamental concept of collective bargaining.

Some unions have gone far afield. Those with restrictive philosophy will die, just as employer organizations with the same philosophy will die. Unions will continue as long as they are economic enterprises and not political, because when they become strong enough politically they will become the government, and no one wants that. Good, sound union organization depends on high productivity, which is a joint effort with management.

The international president of an important union told me that he preferred maintenance of membership to a closed shop, because if you have the latter, you get soft.

Major J. E. Blum

Veterans Personnel Div. Advisor,
Washington State Director of Selective Service

IF A veteran does not get his job back he can refer the case to the U. S. District Attorney, who will act as his attorney without charge. He has recourse through Selective Service, who will attempt to reach a friendly settlement, but if this does not succeed, he can go to the U. S. District Attorney, who will act as his attorney without charge.

An employer can offer a cash settlement to the veteran to waive his rights to re-employment, but there must be no coercion and it must be highly satisfactory to the veteran himself. The employer must have evidence of his effort to reemploy the veteran, in the form of a letter explaining the circumstances fully and satisfactorily.

Don't forget that the letters you wrote Selective Service insisting that an employee was indispensable are still in the files, and will be used against you if you now report him as a useless individual who never was any good.

Most employees have entirely overlooked the necessity of establishing the difference between permanent and temporary jobs as of the date of the passage of the Selective Service Act in 1940. I know of only three firms in Seattle who have done this. You will have to find out who held which jobs and which were permanent. It will take the wisdom of a Solomon to unravel this tangle.

Women After War

Mrs. Mabel Mosler, supervisor of women,
Boeing Aircraft Company

I WISH all women who want to go back home after the war are in a financial position to do so. In the pre-war period as high as 90 per cent of the women working did it because they had to. The average normal woman wants to have her husband support her, but during the war this has been impossible.

These people will go back home: (1) those working for patriotic reasons, (2) those working to supplement an allotment. In 1940 there were 11 million women working in the United States; now there are between 16 and 18 million. But after the war it will be the same story as in 1919 from men "you took our jobs."

Women who have taken war jobs, like beauty operators, will find they have lost their old skills because of war-time advances in the beauty business, and they will have to train all over again, but they get less consideration in unemployment plans.

Women are asking the unions "what are you going to do about us?" and some union agreements say "this applies equally to all workers, including women and negroes." Women have gone into technical, scientific and personnel fields, and they are going to stay there, just as they did in the clerical field after the last war. They will go back to the service trades which have been so short of labor in the war period, but those trades will have to do something about the \$11, \$16, and \$18 a week they used to pay.

In filling supervisory jobs, why should a superior woman be passed over for an inferior and mediocre man? Why cannot women be department heads? Full employment after the war means women as well as men, and men must realize they not only help women but also help social conditions by taking advantage of the things women have learned in the war period.

Readjust Veterans

Walter Wolfe, Kaiser Company, Portland

W E HAVE employed 2172 returned veterans, two-thirds of them disabled. We give them personnel interviews, next put them through a two-hour school, and then talk to them again individually. The veteran then is taken to his place in the yard by the man who does the induction training, escorted personally to the first aid station and so on.

We explain the situation regarding each veteran to the superintendent, and have subsequent interviews with the veteran and make a close check-up to see that every feasible means is used to get him happily and efficiently adjusted to his new job.

* Another group—Far side of table, from right: Irving D. Smith, U. S. Treasury Procurement, Seattle; H. J. Dolling, First National Bank, Seattle; Mrs. Dolling. Near side of table, from right: Chas. Schwisso, U. S. Civil Service, Seattle; Kathryn Yount, Seattle Civil Service; Samuel E. Rubin, a guest; and Clara G. Rubin, Seattle Civil Service.



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• Loading apples in refrigerator cars at Wenatchee, Washington, for eastbound shipment.

Courtesy Great Northern Railway Co.

FREIGHT—Coast and Mountain Rates

IN THE opening installment in the November issue of *Western Industry* of this discussion of the railroad freight rate situation in the West, it was pointed out that in general the railroads have considered the West to be set up on the basis of an "agricultural economy," and are hesitant to formulate a new industrial rate structure without better evidence that the war-time industrialization of the West will remain afterward.

On the other hand, it was suggested that perhaps the rails have been unduly cautious, and have not given budding Western industrial concerns the encouragement they deserve. The general transcontinental rate picture was explained and discussed, showing there are still many differentials in favor of the East to be overcome.

We turn now to the second group of rates, on the so-called "Pacific Coastwise" traffic, moving between California, Oregon and Washington. For years steamships operating up and down the Pacific Coast between Seattle and San Diego have set the level of freight rates for railroads on the "port-to-port" traffic.

Should the Western railroads be making up a new industrial freight rate structure now, to foster the vast industrial development that has taken place in the West in the war period, or are they justified in taking a "wait and see" attitude?

This is the second installment of an article reviewing the whole rate situation. The first installment, in the November issue, dealt with the transcontinental rates. In this issue the Pacific coastwise and mountain district rate question is dealt with. The concluding installment will appear in the January issue.

In fact, the Pacific Coast railroads themselves went to the Interstate Commerce Commission and obtained authority to meet the steamer rates on traffic moving between the metropolitan cities of Seattle, Tacoma, Portland, San Francisco, Oakland, Los Angeles, and San Diego. Regardless of the cessation of steamer service in war time, the railroads are obligated to main-

tain the low competitive rates between port cities. Rates to interior points are relatively higher than between port cities, as Table 1 shows.

The examples of rates cited illustrate the general nature of Coastwise rates, but motor truck competition has done much to rates from and to the inland points as well. In fact, there are definite figures to show the extent to which highway carriers compete with railroads for traffic. A recent statement of the California Railroad Commission indicated that in 1943 highway carriers in California earned gross freight revenues of \$144,000,000, or 69 per cent, while all California railroads combined earned only \$64,250,000, or 31 per cent of the total.

There are a substantial number of truck operators in the states of California, Oregon and Washington and there is reason to believe they will furnish plenty of aggressive competition for the railroads in the post-war era. Thus, between the steamer lines on one side, and truck lines on the other, one could hardly say the railroads are in a position to take a

high-handed attitude in the matter of Coastwise freight rates.

The third and last group of freight rates is the Mountain-Pacific group which partly overlap the Coastwise group and apply between the Pacific states of California, Oregon and Washington on the one hand, and certain points in Nevada, Utah, Arizona, New Mexico, Idaho, Wyoming, Montana and Colorado, on the other hand. In order to obtain a better view of this territory, we compare in Table 2 the relative population, railroad mileage and size of these states, as between the Coastwise states and the "interior" states.

Traffic Density Lowers Rates

The table shows that California, Oregon and Washington have 72 per cent of the population and 42 per cent of the railroad mileage in Mountain-Pacific territory, while these states comprise only 27 per cent of the total area of that territory. The other eight states, with only 32 per cent of the population, have 58 per cent of the railroad mileage and comprise 73 per cent of the total area of Mountain-Pacific territory.

Greater population per mile of railroad line makes for greater traffic density and greater railroad revenue, while lesser population and greater railroad mileage furnish less traffic density and less revenue.

When comparison is made between freight rates in western territory and rates in eastern territory, it is well to bear in mind that the eastern district has a far greater density of population, and population per mile of railroad than in the western district. This is one of the reasons freight rates are lower in the east than in the west, and why railroads charge more for carrying less freight for longer distances in the western district, than in the east.

In the year 1910, the cities of Seattle, Tacoma and Portland filed a complaint with the Interstate Commerce Commission against the northwestern railroads alleging that freight rates used by jobbers and distributors from those cities to points in Oregon, Washington, and Idaho were unreasonably high.

The Portland Scale

The Commission issued its first report finding the existing rates too high and ordered a 20 per cent reduction. Later this order was modified by the prescription of a definite scale of class rates, which have come to be known as the "Portland Distributing Scale," and the same rates, slightly modified in some instances, have been generally prescribed all over Mountain-Pacific territory, as follows:

- (1) In November 1922, in the Klamath County Case, the scale ordered for application from Portland and other Oregon points in Southern Oregon and Northern California; and from central California jobbing points to the same destinations.

- (2) In June 1926 it was ordered to be published as the scale between points in Arizona, on the one hand, and points in California, New Mexico and El Paso, Texas, on the other hand.
- (3) In October 1928 it was prescribed for use on traffic from Salt Lake City to destinations in Idaho, Montana, Oregon and Washington.

- (4) In February 1931 the same scale was set for traffic from Utah points to destinations in California, Arizona, New Mexico, including El Paso, Texas.

It is true that most traffic in Mountain-Pacific territory moves on so-called "commodity rates" and that class rates apply on only a fractional part of our railroad ton-

TABLE 1
Competition Keeps Rates to Port Cities Down, to Interior Points Up

Commodity:	From	To	Railroad rate per 100 lbs.
Acids	San Francisco	Portland, Ore.	\$.46
"	"	Medford, Ore.	.57
"	San Francisco	Seattle, Wash.	.54
"	"	Walla Walla, Wash.	.65
"	"	Spokane, Wash.	.83
Alumina, Sulphate of	San Francisco	Portland, Ore.	.34
"	"	Seattle, Wash.	.36
"	"	Spokane, Wash.	.65
Beverages & Tonics, Beer, etc.	San Francisco	Portland, Ore.	.38
"	"	Klamath Falls, Ore.	.40
"	"	Seattle, Wash.	.39
"	"	Spokane, Wash.	.54 1/2
"	Los Angeles	Portland, Ore.	.45
"	"	Klamath Falls, Ore.	.55
"	"	Seattle, Wash.	.52 1/2
"	"	Spokane, Wash.	.66
"	San Diego	Portland, Ore.	.50
"	"	Klamath Falls, Ore.	.61

TABLE 2
Comparative Traffic Density of Coast and Intermountain States

States	1943 Population, U. S. Census Bur.	Railroad Mileage (1940)	Area in Square Miles	Pop. per Mile of Railroad
California	7,397,456	7,947	158,297	931
Oregon	1,141,078	3,370	96,699	339
Washington	1,843,104	5,321	69,127	346
Total	10,381,638	16,638	324,123	624
Per cent of Mtn. Pacific Ter.	72%	42%	27%	
Other Mountain-Pacific States:				
Arizona	573,881	2,228	113,956	258
Colorado	1,057,977	4,552	103,948	232
Idaho	467,657	2,746	83,888	170
Montana	472,595	5,111	146,997	93
Nevada	133,095	1,941	110,690	69
New Mexico	490,081	2,812	122,634	174
Utah	583,970	2,082	84,990	280
Wyoming	228,917	2,008	97,914	114
Total	4,008,173	23,480	865,017	171
Per cent of Mtn. Pacific Ter.	38%	58%	73%	

TABLE 3
Chronological Changes in Mountain Pacific Maximum Class Rates, 1911 to 1944
Statement shows FIRST CLASS RATE in cents per 100 pounds, as example

Distances (miles)	Rate as originally prescribed by ICC in Nov. 1911 (a)	25% Increase June 25, 1918 (b)	25% Increase Aug. 26, 1920 (c)	10% Decrease July 1, 1922 (d)	10% Increase March 8, 1938 (e)	Present Rates October 1944 (f)
100	\$.50	\$.62 1/2	\$.78	\$.70	\$.77	\$.77
200	.72	.90	1.12 1/2	1.01	1.11	1.11
300	.91	1.14	1.42 1/2	1.28	1.41	1.41
400	1.10	1.37 1/2	1.72	1.55	1.71	1.71
500	1.29	1.61	2.01 1/2	1.82	2.00	2.00
600	1.47	1.84	2.30	2.07	2.28	2.28
700	1.64	2.05	2.56 1/2	2.31	2.54	2.54

- (a) Prescribed by ICC in *Portland Chamber of Commerce v. O. RR & N. Co.* 21 ICC 640.
- (b) Rates increased 25 per cent under order of W. G. McAdoo, Director General of U. S. Railroad Administration.
- (c) Rates increased 25 per cent under *Ex Parte 74, General Rate Advances of 1920*, 58 ICC 220.

- (d) Reduction of 10 per cent in rates under *Reduced Rates, 1922*, 68 ICC 676.
- (e) 10 per cent increase in rates under *Ex Parte 123, Fifteen Per Cent Case*, 226 ICC 41, on May 15, 1943.
- (f) These rates subject to 6 per cent increase March 18, 1942, but increase suspended to December 31, 1944.

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Courtesy Nevada Consolidated Fast Freights

• Highway carriers move constantly increasing tonnages on both long and short hauls.

nage. It is a cardinal rule, however, that railroads establish commodity rates, i.e., special rates, with due regard for their relation to the corresponding class rates, and by this means, the Portland Scale has come to be regarded as a measuring device or yardstick for western commodity rates.

Except where commodity rates are established to meet water or truck competition, or competitive rates from or to other points, the basic measure of commodity rates in Mountain-Pacific territory is their relation to the existing class rates. For that reason it is important to consider the level of our Mountain-Pacific class rates, and their relation to class rates in other parts of the country.

Certain chronological changes have occurred in the Portland Scale since the year 1911, when it was originally established. Such changes took place at times when our national freight rates were undergoing horizontal increases or reductions, generally due to wartime emergencies and needs of the railroads, as a whole, for additional revenue.

Later Increases

The first general increase was in 1918 during the first World War; the second, shortly thereafter, in 1920, when the railroads were going through a depression that swept the nation after the war; this was followed by a moderate reduction in 1922, and a corresponding but somewhat belated increase in 1938 to meet rising costs of labor and materials.

Present rates are now about 154 per cent of the rates originally prescribed by the Interstate Commerce Commission, based on 1911 rates as 100 per cent. In other words, the present class rates are about 54 per cent higher than they were when originally fixed in 1911.

Of course, railroad costs have risen greatly since that time, as any comparison of railroad wages, then and now, will show, and taxes have increased far beyond anything paid back in 1911. But we should not forget that railroad operating efficiency

has also risen greatly in the past 37 years.

When it was once considered efficient to haul carload shipments of 30,000 and 40,000 pounds, the railroads now haul shipments of 80,000 and 100,000 pounds without any difficulty.

Size and weight of railroad rails testify to this increase in hauling efficiency. Where main line rail once weighed 75 pounds a foot, it now runs 130 to 140 pounds per

foot on main line construction. Heavier steel rails and larger engines cost more money, and the prices of construction materials have risen far above the old 1911 prices.

There is doubt, however, that railroads have given full recognition, insofar as freight rates are concerned, to operating improvements, particularly heavier loadings per car and per train, which substantially reduce operating costs.

(The concluding installment, in the January issue, will deal with railroad operating revenues, net income and fixed charges, and will draw conclusions regarding the Western rate structure of the future.)

More Chrome Purchases

Purchase of Oregon chrome ores by the government will be continued after the former deadline of December 31. The purchasers are to continue until June 30, 1945, with a new minimum of 42 per cent chromic oxide in place of 35 per cent. Concentrates will be accepted after the end of December only on a negotiated basis due to the difficulty of reducing some concentrates.

• Steamships set the level of coastwise rates as well as the intercoastal tariffs.

Courtesy American-Hawaiian Steamship Company



Pacific Coast Postwar Steel Uses Enumerated

IN THE welter of postwar predictions and speculations about the future of Geneva and Fontana, it is refreshing to have someone discuss the postwar steel situation from the other end, namely, postwar uses and applications of various kinds of steel in the West.

G. L. von Planck, Chief Metallurgist of Columbia Steel Company, did this, in a talk entitled, "Some Thoughts on the Future of the Steel Industry of the Pacific Coast," before Golden Gate Chapter, American Society for Metals, in San Francisco, October 16. His remarks were substantially as follows:

The future for the use of steel in the West is far brighter than it ever has been in the past. Heretofore we have had a gradual expansion largely dictated by local demands. Our distance from the East has given an opportunity for local mill service to develop, and this has contributed greatly to the growth of our steel industry on the Coast. Now with Kaiser and Geneva making plates and large structurals, heretofore not made here, even more of the demand can be met locally.

Western plants must find Western markets, of which there are two: (1) the Western states; (2) the export field. The latter is unpredictable at the present time, but eventually it may become very important.

In estimating future demands for steel we must hazard some guesses. Today the shipyards are the largest consumers, and their demands have doubled the amount of steel normally consumed on the Coast, and while some shipbuilding and repair work will always be done, the demand will be small after the war, as compared to present. The other major industry of the Coast at present is the aircraft industry. Their plants are not, however, large users of steel and will not greatly influence the local picture. Their needs are mainly for alloy, tubular or other highly specialized products, but not large in total volume.

Our prewar normal volume will be influenced and accentuated by a tremendously increased postwar population, and the steel demands can be grouped into several major uses.

The building and construction field will use structural shapes, reinforcing bars, roofing, siding, nails, and stucco netting. All of these are made locally by western mills that can produce them after the war.

Air conditioning has barely been touched on the Coast, but the experience of some valley cities is an example of what may be expected after the war. The air conditioning industry is a large user of steel, in hot

rolled strip, black sheets and galvanized sheets.

In the durable goods industry the West has an opportunity made to order. Kitchen stoves, water heaters, refrigerators, washing machines, furnaces and appliances all have been made in the West.

Stoves in particular are an example of this opportunity. The West has a dozen or more stove manufacturers, producing the highest type of ranges, unsurpassed in quality, appearance, finish and utility. Our stove manufacturers do not have to take a back seat for anybody. This is a tremendous field for steel products of various types, many of which can be produced locally.

It is claimed that there is a market for a million electric refrigerators in the Western states. Refrigerators were made before the war in Los Angeles, and the boxes can be made out here even though the refrigerating units might have to be shipped in from the East. Stoves and refrigerators require chiefly enameling and cold rolled sheets, together with strip and bar products. These high grade sheets are not made on the Coast at present.

Furniture manufacturers require a large tonnage of wire products and strip steel. The wire can be made out here and some of the strip.

The vast army of miscellaneous shops and manufacturers who produce everything from kitchen gadgets to highway and road building equipment, will in the aggregate be the people who will create the real demand for steel. The greater majority of these people are now making war products, and certainly most of them are not going out of business afterward. They all have plans for the future and nearly all these plans are concerned with steel, and steel combined with other metals.

What I have described so far calls mostly for the ordinary grades of steel, and I now would like to discuss some higher or more specialized grades.

The increased use of low alloy high tensile steels was just getting started before the war. There are many applications where these steels can be used, for it is just as easy to design for a yield strength of 50,000 pounds per square inch as for 25,000, providing the elastic modulus is considered in designing, and the saving in weight of many types of structure can go as high as 20 to 35 per cent.

Trucks and buses are fertile fields for weight reduction through the use of high tensile steel. This development had just begun before the war, and certainly will increase greatly afterward, because for

slightly higher costs you can get nearly double the strength in these steels. Sheets and plates are used in the manufacture of trucks and buses, and the local mills will be prepared to produce these steels.

Before the war there were several automobile assembly plants on the Coast. All of these are expected to resume operations after the war, and other manufacturers are preparing to establish assembly plants out here.

There is no reason why such parts as underframes, springs, bumpers and even wheels cannot be produced out here; in fact, all of these parts except wheels already have been manufactured here.

Competition from non-ferrous metals is probable and expected, and whether the individual aluminum and magnesium plants already established here survive in the postwar era does not change the overall picture. Aluminum in particular is here to stay. Its lightness in weight in comparison with steel, and its resistance to corrosion go a long way to overcome its higher cost, and with lowered production costs aluminum can be a serious competitor. Stoves, refrigerators, furniture, etc., offer excellent opportunities for using aluminum, especially the higher strength alloys like Dural.

In the transportation industry aluminum may become a strong competitor in the construction of many types of mobile equipment. This competition will be met with high tensile and stainless steels. For many types of construction high tensile steels will compare most favorably with aluminum.

In lighter construction the hardness, strength, durability and beauty of stainless steels offer an opportunity no other metal can duplicate at anywhere near the cost. We may have a stainless steel age ahead of us with increasing application in many fields. Its surface does not scratch or mar, or require continuous polishing, and its beauty has a great sales appeal, particularly to the housewife.

Many local shops can easily produce all sorts of stainless steel household articles with a splendid market right at hand.

High tensile steels have been and will be used in large volume by the railroads, for both passenger and freight cars. The Southern Pacific "Daylight" is such an example, and the Association of American Railroads have specifications for the use of high tensile steels in manufacture of freight cars. The saving in weight is most important in this application, and we may look for some of this construction for the West Coast. They call for the use of plates, structural shapes and heavy sheets.

We have the potential will to produce out here and I can see a bright future for steel. The manufacturers in the West are most sympathetic to home industry, because they realize it is in the interest of self preservation. "What the West makes, makes the West."

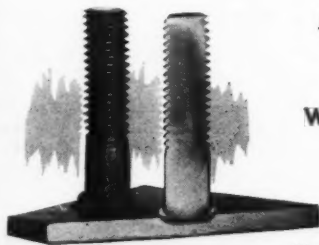


Complete fusion of stud to metal in less than 1/2 second...

The **Nelson Stud Welder** is simple to operate because the welding is *automatically* controlled. It eliminates the need for drilling, tapping, and hand welding bolts to secure parts, because it end-welds studs directly to the metal surface.

It is used by more than 460 industrial plants and shipyards. Operators are securing 500 to 1500 studs a shift. No previous welding experience is necessary to operate it.

Complete fusion of the stud to metal is obtained by accurate arc timing control, automatic action of the "gun," the use of flux-filled studs, and complete shielding of the arc.



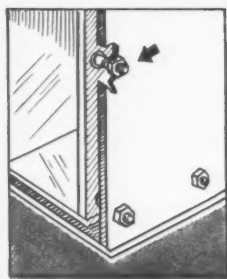
*Cutaway view of stud,
after etching with Nital.*

For complete data, catalog and price list, write:

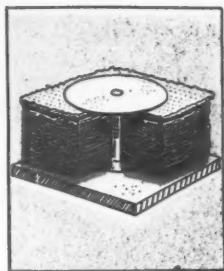
**NELSON SPECIALTY
WELDING EQUIPMENT CORPORATION**
Dept. W6, 440 Peralta Avenue
San Leandro, California

*Eastern Representative: Camden Stud Welding Corp.
Dept. 22, 1416 South Sixth St., Camden, N. J.*

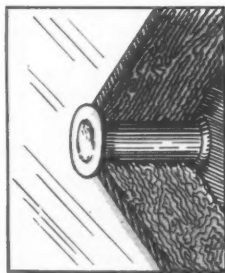
TYPICAL STUD APPLICATIONS



Metal Liners — To obtain a blemish-free lining to prevent the eroding action of particles that may be drawn through air-pumps, etc. Studs are welded to back of inner lining and secured on outer casing. Useful in manufacture of air-conditioning equipment.

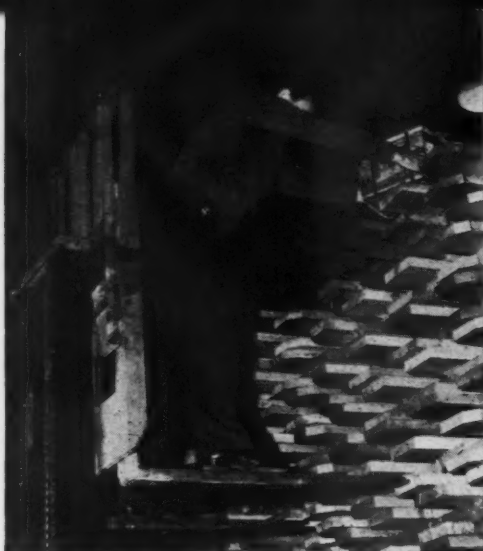


Nelson Insulation Pins are used to secure soft insulation rapidly and economically. They are welded directly through the material without injury to it. Where large metal surfaces must be insulated these pins will save both time and material.



Securing Sheet Metal — Sheet metal to protect soft insulation material is secured with female studs and drive-screws. Studs are welded at 12" centers and insulation impaled over them. Metal covering placed over and secured by tapping screws into studs.

NELSON STUD WELDERS & STUDS



• Yes, these are posed pictures, but the violations are bona-fide. (Left) Riding on the forks violates federal and state laws and Waterfront Employers Assn. rules against carrying any other person than the driver. (Center) Using the forks as an elevator is another dangerous practice. (Right) Hitch-hikers on jitneys are inviting trouble for themselves and also jeopardizing employers.

Signal Corps photos from Los Angeles Port of Embarkation

Safer Materials Handling Promoted By Coast Groups

GREAT efforts to obtain a larger measure of safety in the operation of materials handling equipment are being made on the Pacific Coast by the Army, Navy, and civilian organizations such as the Waterfront Employers' Assn.

Here is a set of rules for operators specified by the Seattle Port of Embarkation:

- (1) Allow no passengers in excess of the number of seats provided. Riding forks or pallet boards are prohibited. Fork lifts will not be used to elevate personnel unless equipped with a properly designed work platform approved by Port Safety Office.
- (2) Travel at a safe operating speed at all times. Keep the vehicle under control and don't drive a lift loaded above observation level except in reverse.
- (3) Observe and comply with all traffic signs. In approaching driveways, blind corners, and all other locations where visibility is limited, reduce speed and sound horn. Do not cut corners.
- (4) Exercise extreme caution when driving on wet or slippery surfaces.
- (5) Do not move a questionable load which is too heavy for equipment. Use only high lift trucks equipped with high stanchion guards to build or break down high cargo piles. Material on forks not to be piled higher than guard will hold.
- (6) When parking empty lifts, do not park on railroad tracks or in non-parking areas. The fork must be flush with the floor and clear of aisles or passageways. When parked or otherwise idle, turn off ignition, set brakes and place gear in neutral position.
- (7) Look over your operating area, being certain to observe overhead clearances, congested and unguarded platforms.
- (8) Not more than ten (10) trailers or hand trucks shall be towed in a string at any time. Passengers are never permitted on trailers.
- (9) Each trailer or hand truck to be towed in a string must be equipped with a safety lock so that trailers will not accidentally unhitch.
- (10) Shut off motor before removing cap to fill gasoline tank.
- (11) Report any defect in any vehicle immediately to the Material Handling Equipment Pool.
- (12) Report all accidents and injuries, no matter how minor, to your immediate superior at once. **THIS IS IMPORTANT.**

As a contribution to the present drive for reduction of accidents in industrial plants, The Elwell-Parker Electric Company has formulated a set of safety rules for operators of power industrial trucks. It is pointed out that in most cases it would be advisable to modify them by specific reference to local conditions, such as observance of one-way routes, hints for checking loads before pick-up, etc.

Rules for Safe Operation of Power Trucks

- (1) Move control levers firmly from one speed to another and without hesitation. This is to prevent arcing, which pits the contact surfaces of the switch. If you allow these contacts to become damaged you may fail to get the expected response from your control lever at a time when you want it very much.

- (2) Keep your load as low as possible when moving. There is no danger of tipping a load carried at a low level. Keep it low enough so that you can see over it.
- (3) Keep your truck behind the load. If you should get off suddenly, or fall off, then the load will be moving away from you and it can do you no harm. When going up steep inclines it is sometimes better to reverse this position and have the truck pull the load.
- (4) Avoid making quick or jerky stops. The momentum of the load may play tricks on you. Be especially careful about stops when you have a load elevated for tiering or stacking.
- (5) If your truck has a tilting device—use it. By tilting the upright toward you, the weight of the load is brought back slightly and the balance is improved. This slight tilt of 10 to 15 degrees will avoid spilling the load when rounding corners.
- (6) Go easy when approaching danger points. These are: elevator gates, pits, bridges, inclines, tunnels and tracks. Get the habit of crossing tracks diagonally instead of at right angles.
- (7) Take a good look at your load before you pick it up. If you have to move a doubtful load, slow down.
- (8) Be sure to pick up every load squarely. Then there is no danger of the load shifting, due to offside loading, while you are in motion. When small boxes in pallet or skid lots are raised above the uprights, be sure that those on the back corners have not shifted to fall on you. Insist on wide load back rests.

(Continued on Page 38)

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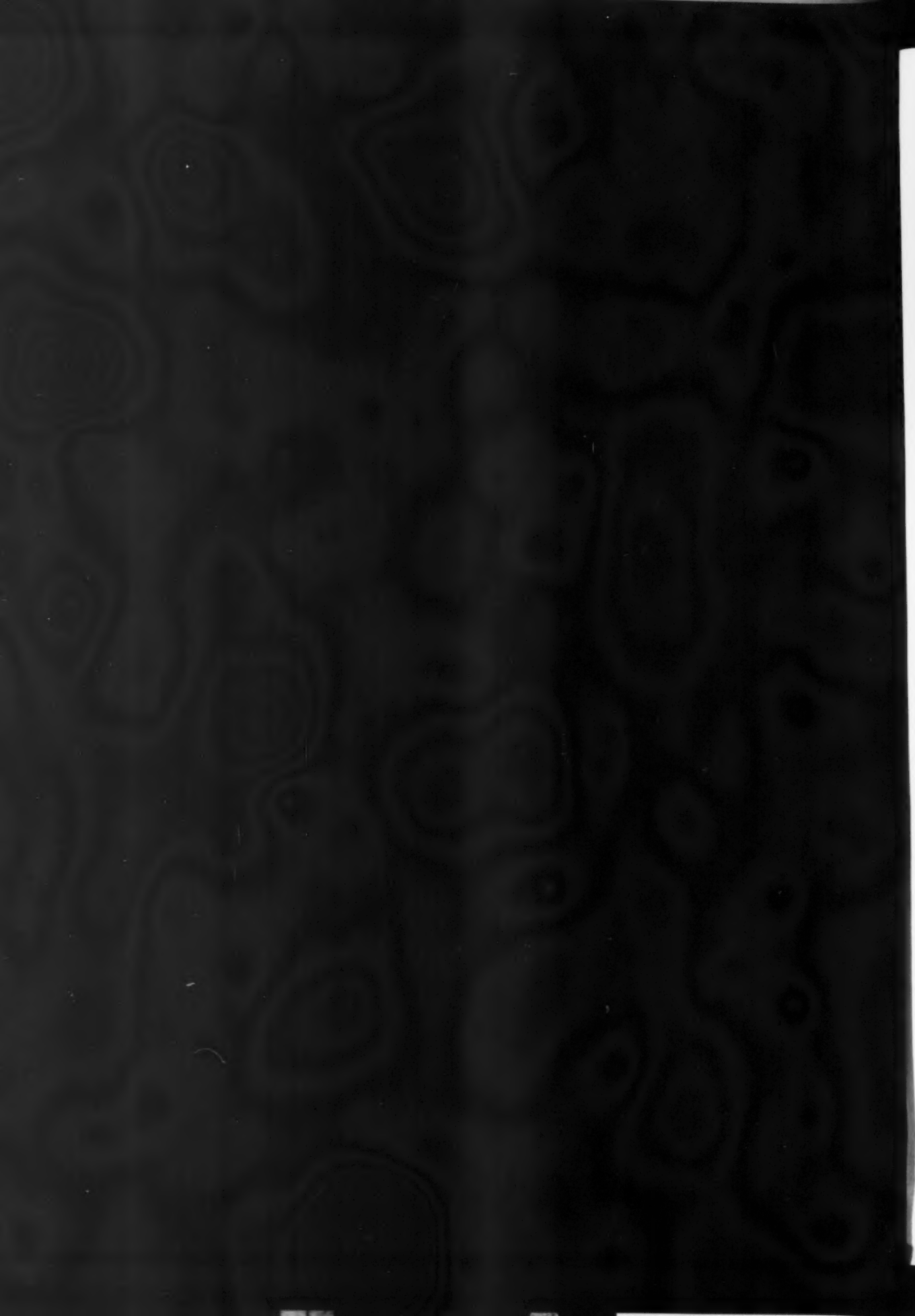
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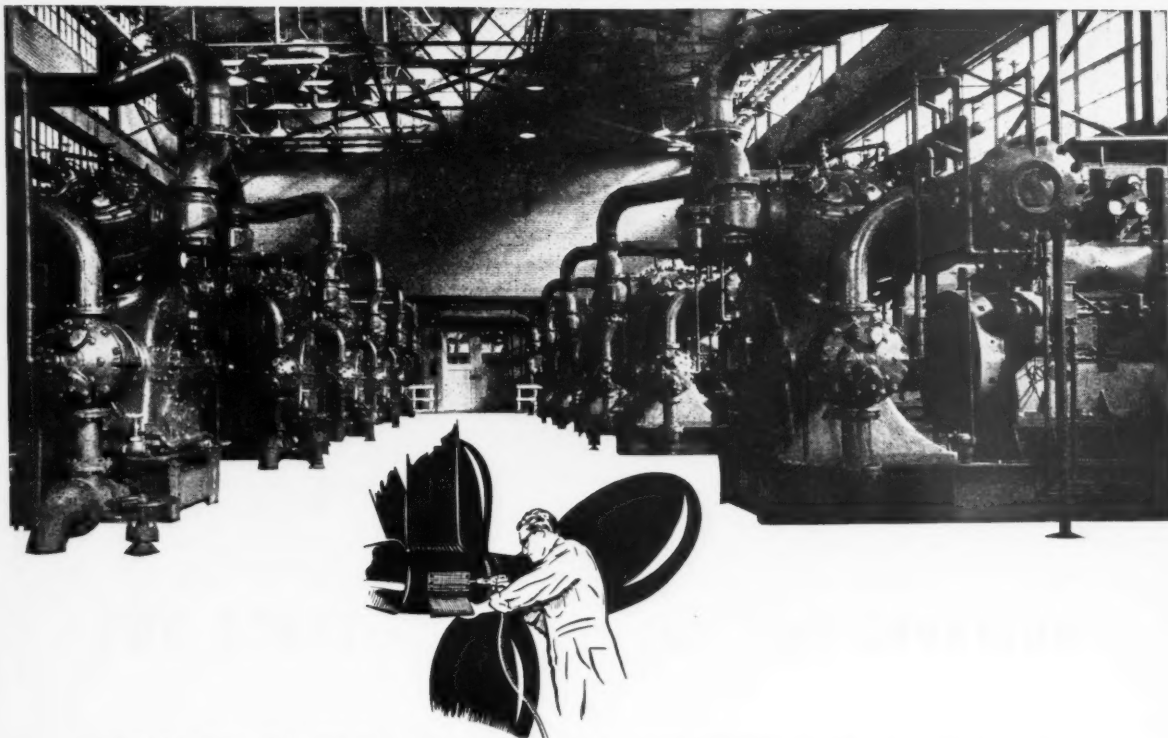
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THESE ten Sullivan air compressors furnish the air power—15,000 cubic feet of it every minute—that operates the thousands of tools used in building many of the ships that form the life line of the invasion.

Chipping hammers, sand rammers, air hoists, sand blast machines, grinders, spray guns and the countless other tools that are used in this huge plant are powered entirely by this battery of heavy-duty, continuous-service compressors.

Sullivan WN-114's were chosen for this important war job for a number of reasons: They were easily and economically installed (all Series 100 compressors are shipped completely assembled). They were ideally suited for Diesel drive (Series 100 compres-

sors operate efficiently with any type of drive). They require little floor space (compact design made this saving possible). They carried an endorsement from industry for their lower maintenance costs (since 1937, when the first Series 100 was built, these modern compressors have been used in every type of industry with unqualified success).

The efficient Sullivan Series 100 air compressor has been an important factor in the creation of wartime production records. It is also playing an equally important role in the post-war plans of far-sighted executives. Sullivan Machinery Company, Michigan City, Indiana. **IN CANADA:** Canadian Sullivan Machinery Co., Ltd., Dundas, Ontario.

AIR COMPRESSORS

FROM ¼ TO 3,000 H.P.

OFFICES—Seattle • Boston • New York • Chicago • Portland • Pittsburgh • St. Louis • Detroit • San Francisco • Birmingham • Knoxville • Huntington • Los Angeles • Duluth • El Paso • Butte • Salt Lake City • Scranton • Denver • Dallas.



PRODUCTS—Stationary and Portable Air Compressors from ¼ to 3000 H. P. • Pneumatic Casting Grips • Foundation Breakers • Portable Hoists • Rock Drills.



• Riding around on a four-wheeler in a shuttle train is another common, but bad, habit.

SAFER MATERIALS HANDLING (Continued from Page 36)

- (9) *Report rubbish on floors to your foreman.* You and your truck are safer on clean runways.
- (10) *Don't cut corners.* You are in danger of having to stop quickly—lose the load—hurt someone or damage the goods.
- (11) *Keep your truck clean.* Dirt and rubbish make your footing uncertain and may cause trouble if obstructions lodge somewhere in the mechanism.
- (12) *Don't carry passengers.* You need all the room you have, for perfect control of your truck.
- (13) *Don't allow others to operate your truck.* They may injure someone, or damage the truck or tires. It takes time to get spare parts these days.
- (14) *Report need for repairs immediately.* Repairs take the least time when they are made promptly.

Answer To Annealing Of Stainless Steel...

WELDING problems in stainless steel are attracting considerable attention, according to W. Wallace McLean, in charge of the technical advisory service in the San Francisco regional office of Smaller War Plants Corporation.

Here is the problem that was posed:

"We have to manufacture a number of stainless steel tanks for milk storage; a typical size is 6 ft. diameter by 11 ft. long, made of 1/4-in. plate running about 19.07 chrome and 7.23 nickel. We would like to know the best method for welding stainless steel, also the recommended procedure for grinding and polishing the welds. We have been informed the welds should be annealed to restore the chromium, otherwise the lactic acid in the milk will attack the welds. We would appreciate information as to what temperatures are required for annealing and what time factors are involved."

L. P. Henderson, district manager at San Francisco for the Lincoln Electric Company, reported, in part:

"In general, it is very unsatisfactory to try to heat treat welded stainless steel products, although in certain shapes this can be conveniently done. A tank would be practically out of the

question to treat in such a manner. The next approach is to use the low carbon analysis of stainless, with .07 per cent maximum carbon, in order to minimize carbide precipitation.

"Better still is the practice of using chromium stabilized stainless sheets, along with chromium stabilized welding electrode. In general, we do not find it necessary to use stabilized sheets in applications which will be subject to a heat of less than 500 deg. Fahrenheit. We do, however, use stabilized electrode for the welding of such articles. * * *

"A heavily coated electrode which produces a shielded arc should be used. The core should be of approximately the same analysis as plate, with columbium as a carbide precipitation preventive. Reverse polarity should be used and electrodes should be short. The electrode resistance of the stainless is high. It is advisable to use comparatively short electrodes to avoid overheating electrode, as the holder, being the last section to melt, is subjected to heat for the longest time.

"The work to be welded should be prepared as for ordinary metal electrode welding of mild steel. Surface should be plain, scale free. After welding there may be a discolored area on both sides of the bead due to scale being found at high temperature. For best results, this scale should be removed by grinding, pickling or some similar method of maximum corrosion

resistance, otherwise the discolored area of parent metal may not be as corrosion resistant as the other metal. When more than one bead is used, the slag should be thoroughly cleaned off the preceding bead."

V. N. Krivobok, research division, International Nickel Company, said:

"Stainless steel of the stated composition is readily welded by all of the generally adopted methods of welding. . . . It is essential that in any such application as for milk storage the welding flux, if it has been used in welding, and it usually is, should be thoroughly removed. It is essential that no iron brushes or similar things be used, otherwise very fine particles of iron may become embedded in the stainless steel and cause corrosion and possible discoloration of the milk.

"It is the general practice to have the tanks heat treated after fabrication . . . in this case it would be accomplished by heating the vessel to approximately 1950 deg. Fahrenheit, held at that temperature for sufficient time to have the whole structure thoroughly heated to the above temperature and then rapidly cooled either in circulating air or by quenching with water."

F. M. Lambert, technical engineer of Heintz Manufacturing Company, stated:

"With the critical shortage of 18-8 stainless steel, a milk tank of the size specified would most likely be made of a stainless clad carbon steel arc welded together on the inside with stainless electrodes and on the outside with carbon steel electrodes.

"The assembly should first be tacked together on the outside, then welded on the inside, using the step-back method. After the inside welding is completed, weld the outside also, using the step-back method to prevent shrinkage cracks. Inside weld should be ground, polished and buffed bright to prevent pit corrosion. If held at 800 deg. to 1500 deg. F., stainless steels will precipitate carbides which lessen the corrosion resistance, which can only be corrected by annealing at 1900 deg. F. . . . If the carbon is kept below .08 per cent, the condition is not serious enough to warrant the expense of annealing."

D. C. Smith, metallurgist, electrode division, Harnischfeger Corp.:

"A good type 308 stainless steel electrode could be used for this work. However, a type 316 or 317 would be preferable, since its corrosion resistance under this type of service is much superior. I see no point in annealing the welds for the purpose of restoring the chromium. The annealing would perhaps disperse the carbides formed in the fusion zone during welding and aid in corrosion resistance. Normally this is not necessary for applications of this kind."

Magnesium Legs

Artificial legs are being manufactured from magnesium by Rudolph E. Huck of San Francisco at a 20 per cent saving in weight over present types and at no greater cost. Mechanical advantages over wooden legs include an ankle joint that provides for natural movement of the foot. He has adapted a new method of shaping the contour of the calf by applying sponge rubber around the metal, thus eliminating the weight of a wooden or metallic shell and also supplying a soft finish. If magnesium were used to replace steel for braces on infantile paralysis cases, the weight would be cut from the present 8 to 14 pounds range to a range of 2 to 3 1/2 pounds.

Through HIGH SPEEDS and FLYING TAR!



OUT of this maze of rollers, shafts and gears come rolls of fireproof roofing paper – the rate of output is amazing! Known as a “rewinder”, it takes the big rolls off the impregnating machines and rewinds them into smaller commercial rolls. Built from the ground up, *right on the spot*, it is truly a wonderful example of the adaptability of Fafnir Ball Bearings.

Fitted cleverly into the design of the machine, two Fafnir Ball Bearing Hanger Boxes support one end of the main shafts. Fafnir Pillow Blocks support the other ends. These Fafnirs have been on the job for more than 8 years – running smoothly and troublefree in veritable clouds of flying tar and gummy lint. The master mechanic says, “All the care they need is an occasional greasing!”

Tough operating conditions hold no terrors for Fafnirs. Wherever the job calls for extra stamina, extra service, you’ll find a Fafnir Ball Bearing Unit

that will fit the most exacting requirements. Fafnirs alone offer the Wide Inner Ring Ball Bearing and Self-Locking Collar that simplify and speed installations. Only Fafnirs have Balanced Design – larger balls, deeper races – that means longer bearing life. The Fafnir Bearing Company, New Britain, Conn.

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FAFNIR
BALL BEARINGS

Clearing the Way for Spot Authorization

WASHINGTON, D. C.—Smaller War Plants Corporation, which hereafter in this report will be called SWPC, is, unreservedly and very genuinely, determined plants on the West Coast, employing 50 or less wage earners, and which can qualify with the



WPB for materials and facilities, shall be free of any other manpower restraints. War Manpower Commission has agreed that it will exempt such plants from manpower clearance requirements. SWPC has worked with WPB

and WMC for several months to obtain this concession.

There is hope that this major stumbling block in making the Spot Authorization Plan effective may be entirely blasted out of the way in the near future. When the purpose is achieved it is expected it will enable many smaller plants on the West Coast to produce numerous items for civilian consumption.

The germ of the idea was presented in the Smaller Producers Reserve plan which was submitted by SWPC to WPB last April. In discussing its views and efforts in a recent report, Chairman Maury Maverick stated:

"The Spot Authorization Plan, which parallels the Smaller Producers Reserve Plan, provides that small as well as large companies can obtain (a) exemption from WPB restrictive orders to produce civilian products; and, (b) the materials necessary to produce them, providing that such production will not use labor, materials, com-

ponents or facilities needed for the war effort.

"The Spot Authorization Plan has been progressively refined and improved. In recent weeks a reserve of more than 225,000 tons of steel has been established for its operation. In addition, the situation regarding manpower clearances under the plan has been clarified; the War Manpower Commission has been directed to pass on all matters relating to manpower, and the Production Urgency Committees have been directed to confine their attention to matters other than manpower. Furthermore, SWPC, WPB, and WMC, have recommended that a small plant exemption be put into effect in the near future, EX-EMPTING from a labor clearance all small plants employing less than 50 wage earners on the West Coast and 100 elsewhere, if the approval of their application results in no increase in employment.

"The progress which has been made is encouraging. Since the establishment of the steel reserve, the allotments of material under the plan have risen sharply. There is reason to believe that the Spot Authorization Plan will do much towards absorbing pools of unemployed labor not used in the war effort and of preventing hardships among small plants arising from restrictive orders and inability to obtain materials."

As most smaller plant operators know, an application for a Spot Authorization now must be filed with WPB and WMC. The application is made to WPB on Form 4000. It applies for an allocation of mate-

Seattle Proposes to Make Business-Builders Out of Postwar Unemployed

SEATTLE is preparing to take care of the postwar employment situation at home, by asking each commercial and industrial firm to provide its share of the total additional jobs needed to absorb all the surplus labor in the community.

This is being considered, not as an extra burden on the back of each firm, but as an opportunity for each employer to find ways of expanding his business to meet the situation. In other words, to make two blades of grass grow where one grew before.

There are two other ways in which the surplus employment situation could be met: (1) going to the "great white father" at Washington and asking for funds in the form of WPA projects, leaf-raking or what have you; (2) going to the state capital at Olympia and asking for unemployment re-

lief. Both are felt to be far less desirable.

The plan has not reached the stage of setting quotas and selling the idea to the community, but the local Committee for Economic Development believe it to be sound.

In the Seattle area, according to a joint study by the local C.E.D., the Bureau of Business Research of the University of Washington and 12th Federal Reserve Bank, there will be an apparent deficit of 79,000 jobs. This is based on a potential demand for 314,000 jobs and an estimated supply of 235,000 jobs.

If the manufacturers' estimate of the number of employees who will drop out of the labor force is used, the demand for jobs would be only 296,500, reducing the apparent deficit to 61,500. This might be cut still further if the estimated supply of jobs proves too conservative.

By ARNOLD KRUCKMAN

One of the best-informed writers at the Nation's Capital, Arnold Kruckman, presents each month authoritative comments on political developments and their practical application to industry of the West. Any reader who wishes additional information may write to him directly, using business letterhead, at 1120 Vermont Avenue, N.W., Washington, D.C. Inquiries will be answered free of charge. You also are invited to contact him personally in Washington. Copies of pending congressional bills may also be obtained free of charge.

rials and reports an outline of the facilities of the plant.

This application goes to the Production Urgency Committee of the area—known as PUC—composed of representatives of the armed services, the WMC, SWPC, and probably other agencies. The chairman of the committee is the representative of WPB. The decision on the application lies wholly within the discretion of the chairman. He has the only vote. The other members are consultants and are his advisors.

The small plant operator who applies for a Spot Authorization also files Form 3820 with the WMC for labor clearance. The application form is considered by the WMC committee, which, likewise, consists of representatives of the armed services, WPB, SWPC, and is headed by the WMC representative as chairman. In this instance the chairman, representing WMC, has the sole right to determine the fate of the application. The other members with whom he consults are his advisors.

When the modification now proposed by SWPC is finally made effective, it will no longer be necessary for the small plant operator with less than 50 workers, and who does not propose to employ more workers than are on his payroll, to file Form 3820 with WMC for labor clearance. It will be only necessary for him to apply to WPB and to obtain an allocation of materials, or to make a showing that he can use materials in his possession, with his facilities, without interfering with any war work.

The past record of action on applications for Spot Authorization shows that there has been relatively little difficulty in securing clearance from WPB or its PUC group. Most of the applications have gone aground in WMC.

In other words, manpower, for reasons usually not very clear, has prevented the operation of smaller plants under Spot Authorization for the production of civilian

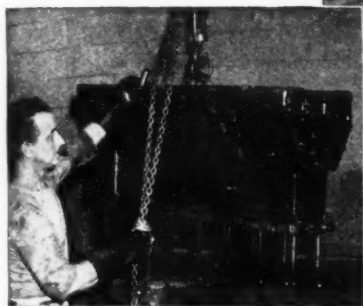
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SPEED CLEANING AND OVERHAUL

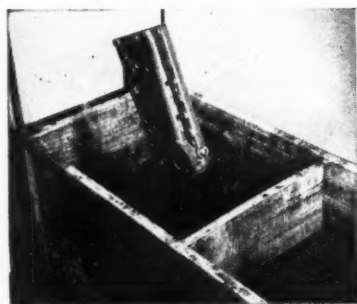
- the Kelite way!



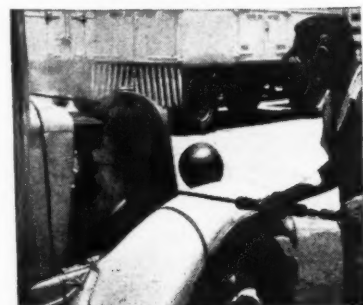
KELITE SUPER-FOAM provides a super car wash in a hurry.



KELITE KETREX



KELITE No. 158



KELITE KDL No. 24

SUPER-FOAM mixes instantly with water and forms a foaming emulsion which soaks under road film, removes both dirt and film without hard rubbing yet is completely harmless to lacquer, enamel, paint, varnish, chrome and glass.

Oil, grease, sludge, residual gums and carbon are removed by a simple, cold soak in KETREX. This powerful cleaner penetrates and loosens stubborn deposits, yet it is completely safe on all metals.

KELITE No. 158 speeds hot tank cleaning. KELITE KDL No. 24 makes

steam cleaning faster and cheaper. It breaks up chassis grime, oil and grease so that they readily rinse away and leave the surface film free.

Quick action and complete safety for the surfaces being cleaned are features of the specialized materials which Kelite has developed through the application of scientific pH Control to chemical processing and cleaning.

Speed up your cleaning and overhaul work the *safe, sure* way . . . with Kelite materials and methods.

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SCIENTIFIC CLEANING THROUGH pH CONTROL

KELITE

pH Control

6.5 7.5

Mfg. Plants in LOS ANGELES, CHICAGO, PERTH AMBOY, HOUSTON
Branches in all Principal Cities.

goods. It is no secret that the objection does not come from WMC, since the application does not require the use of manpower employed on war work, but apparently stems from the representatives of the armed services on the WMC committees which process the applications.

It appears to be the policy of the armed services at this time to keep production for civilian purposes to a minimum, probably with the idea that unemployed persons and unemployed facilities may be induced to get into war work, or in other work that might release manpower which would go into war work. The armed services logically feel, while the war effort is yet wholly undiminished either in Europe or Asia, the resources at home should be kept in such state that they can easily be put at full speed ahead for the war when, as, and if they are needed.

SWPC appears to feel that it can clarify the situation so that the armed services will be convinced that there are many plants and many workers not useful in the war and with no prospect of supplying any war need. SWPC has many graphs which demonstrate that almost all plants which employ 250 or less have had practically no war work.

It also has data which reveal there are pools of workers in many places, remote

from centers of war work, who will not move from their present location for sound reasons, who will take jobs in the plants in their own localities, plants usually capable only of producing nonwar commodities.

SWPC does not anticipate the new Congress will interpose any difficulties in making the law effective. The armed services, on the other hand, appear to aim at diverting thought and discussion from postwar planning and reconversion at this time. They bluntly requested General Electric to abandon the meetings it had called to confer about postwar plans.

The present feeling of those who have received Spot Authorizations is reflected in the phrase they use to define their permits. They call them "hunting licenses," meaning the authorization is chiefly useful as a legitimate basis for a search for materials they cannot obtain. Those able to find materials generally cannot find manpower; and those who can find both materials and manpower report, sometimes, OPA refuses permission to increase prices sufficiently to cover the increased costs of materials, wages and operation.

Some abandoned the effort to use their authorizations because they said they could not afford to operate at a dead loss; others took the loss on civilian products and made it up on war products; still others took the loss—as high as 25 per cent—in

order to get a head-start on civilian production, assuming V-E Day is just around the corner.

Others are reported to have taken on civilian production mainly to avoid the loss of war contracts. And there is word that some Spot Authorizations were not really efforts to start civilian reconversion from scratch, but were actually authorizations to increase or expand the production of considerable programs of civilian commodities already under way.

On the whole, the survey is reported to have revealed that no great amount of civilian output was authorized. It has been pointed out that 772 authorizations were reported by mid-October. This number included 579 plants with 50 or less employees each, which collectively employed a total of 8,021 workers; while 55 plants, which each employed 250 or more workers, had employed, in producing civilian goods, a gross total of 43,570 workers, or more than two-thirds of all manpower embraced by the 772 plants given Spot Authorizations.

The actual quantity of carbon steel involved in the production by those having Spot Authorizations totalled 12,506 tons, which came out of a total steel production of 20,000,000 tons during the same quarter. Those working under Spot Authorizations were allocated 137 tons of steel alloy, coming out of a total production of 2,700,000 tons of steel alloy for the same quarter.

It is interesting to note that the area centering on San Francisco is one of the half dozen in all the country which received the lion's share of the authorizations, while Seattle is one of the three cities which got the least.

Maury Maverick is a peculiar person, but is utterly sincere in his desire to make the new reconversion law the magna charta for smaller business.

He believes one of the best fields to practice the preachments of SWPC for smaller business is on the Pacific Slope. You are very apt to find that in his unique and colorfully human way he will give your smaller plants, waiting for civilian production, a reconversion blood transfusion that may go some way in solving the problem of whether the East will beat you to it.

It is singular that the West, usually regarded as daringly liberal and adventuresome, apparently regarded the liberalism of Maury Maverick with cool caution; and when he was out there recently, on the whole he did not find the kind of response we naturally expected. There is a sort of tough good nature about Maury that makes him shrug off such an experience. Those of you out there who indicate the slightest sign of genuine desire to garner the benefits of this new law will get some breaks if you make your sentiment clear to SWPC and its chairman, Maury Maverick. And bear in mind, *time* always is of the essence.

*** OBSOLETE AIRCRAFT EQUIPMENT MADE USEFUL.** Converted by the Western Procurement District, Air Technical Service Command, for use of West Coast Air Bases. At left is a Norden bombsight box, useful as a container for other purposes. In the foreground is a navigator's desk lamp, eliminated to reduce weight, now being rewired and reconstructed to make desk lamps for air base workers. Two obsolete fan assemblies used inside cabins are being rebuilt and used by ingenious supply officers as water heaters and ventilators. Roll of material at right is being used for insulating buildings and equipment in hot and cold climates. Cartridge carrier (box with oval opening) in rear and floor boards at right and left rear, are being dismantled and wood and metal parts used for training aids and other useful purposes. U-shaped bombardier cushion in center, now obsolete, being redesigned to supply cushion seats for machine operators and other workers. Plane to tower signal lights (lower center), being converted to spotlights. Tool bags and box, useful at air bases for similar purposes. Heavy gauge cable for which no market exists, is being used at air bases to eliminate flying hazards by placing wires underground; also for wiring automotive and mobile equipment.



Putting More Power Behind Manpower



Transmitting every ounce of power . . . backing up every man-hour with plenty of smooth, positive power . . . this Baldwin roller chain belt drive helps keep things humming in a rubber plant. It never gets that "tired feeling" or takes time out for repairs.

THE positive grip of Baldwin roller chain belts on sprocket teeth is an important factor to many a factory. For these sturdy chains assure plenty of smooth-rolling power—with no waste due to slippage. The amount of horsepower they're set up to transmit is exactly what they deliver—day in—day out, through years of economical operation.

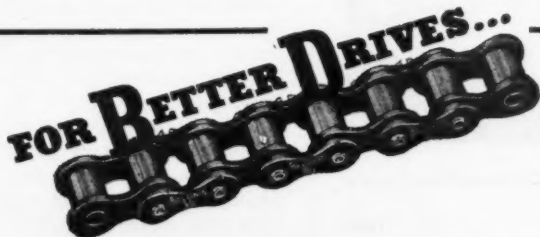
There's no waste of manpower owing to frequent time-outs for repairs or adjustments with Baldwin on the job.

Once installed, they're there to stay with an absolute minimum of maintenance. Baldwin roller chain belts are quiet, too. They are not subject to annoying slapping or banging.

BALDWIN ROLLER CHAIN BELTS GIVE YOU THESE ADVANTAGES:

1. Not adversely affected by dust and grease.
2. High shock absorbing ability.
3. No pre-load to shorten shaft life—not installed under tension.
4. No power loss regardless of adjustment.
5. Not dependent on set distances between centers for effective and proper operation.

For complete information on Baldwin roller chain belts, call your Baldwin Man or write for your copy of Baldwin Catalog M. Baldwin-Duckworth Division of Chain Belt Company, 352 Plainfield Street, Springfield 2, Mass.



BALDWIN

ROLLER CHAIN BELTS

REGIONAL REVIEWS

COLUMBIA EMPIRE

MORE and more frequently stories are appearing in Portland newspapers announcing additional authorizations from the War Production Board for the manufacture of various civilian items. Every week a few additional names join the list of local firms permitted to manufacture civilian goods so long as it doesn't interfere with whatever war work they are engaged in at present.

The authorizations, however, do not automatically result in increased manufacture of civilian goods. WPB, keeping close contact with the firms holding such authorizations, reports that in most cases applicants report they have been able to place orders for the necessary materials and that as soon as details are worked out they will be in production.

One of these "details" is manpower.

Portland is still an extremely tight labor market. Shipyards in the area are recruiting everywhere. During September, Oregon's industrial payroll mounted to \$50,263,527, which was a million dollars higher than the preceding month and an increase of \$2,400,000 over September, 1943.

The individual industries themselves make no promises of prompt production of civilian goods. In fact, they can point to a good many obstacles. The Webb Electric Company, for instance, has been granted authority to manufacture small electric heaters for civilian use. Acknowledging a terrific demand, they nevertheless complain of lack of manpower. "We've been training and putting returning service men on the payroll sent to us from the veterans' bureau," they say.

A similar concern is the Wesix Electric Heater Company, which has been granted permission to make water heaters. It is using part-time workers and hunting all over for materials. The best they hope to be able to do is to take care of emergency cases.

Bedding and furniture companies, such as the Pettit Bedding Company, Sealy Mattress Company and the Portola Furniture Company, all face the same problems. They expect to be turning out a fair supply of box springs by the end of the year but believe it will be well into January before they can promise anything in the way of innerspring mattresses. They claim that lumber, textiles and other materials are not available to meet the present demand up and down the coast. Many of these materials come out of areas that have their own labor and production problems.

Irwin-Hodson, authorized to build steel highway and traffic signs, is still looking for the steel. They intend to tackle industrial signs first and let the highway signs go for the present.

A terrific demand exists for septic tanks, says the Collins Concrete & Pipe Company which finds manpower shortages its greatest problem.

And so it goes all the way down the line. There can be no real all-out reconversion in this area until shipyards begin closing down and material supplies start loosening up. Authorizations from WPB can do little besides permit plants to start early to lay the groundwork for a smooth high-speed transition into civilian production simultaneously with the reduction in war production. If it does this, however, it will have done a lot.

Last month Paul Hirsh, deputy regional director of the War Production Board, announced that authorizations granted up to that time represented an annual volume of \$2,309,600.

Easing of controls over lumber did nothing to help the supply situation. In fact, F. H. Brundage, western log and lumber administrator at Portland, reports a sharp downward trend in production of logs,

Ingenious New Technical Methods

Presented in the hope that they will prove interesting and useful to you.



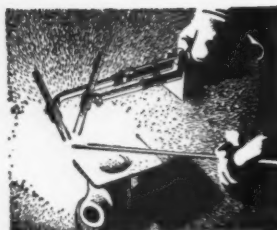
New 9000° Arc Torch Can Be Used for Welding and Brazing All Ferrous and Non-Ferrous Metals and Alloys

Now an arc torch that makes it possible to do most jobs electrically that previously were thought possible only with gas. This attachment for arc welders provides an independent source of heat by means of two carbons. It is capable of producing intense heat, approximately 9000° F., over 2000° hotter than an oxyacetylene flame. Pure heat, no oxygen or gas to contaminate the weld. No pressure to force the molten metal away or blow holes in light sections.

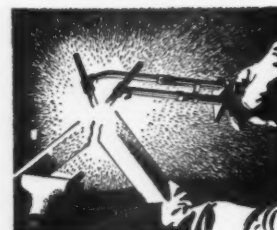
Developed to capitalize to the fullest on the time-saving advantages of electric welding, the new Mid-States 9000° arc torch can be used with any AC or DC electric welder. It opens up new horizons of service in this field, never before possible with an electrically operated instrument.

New uses are being found every day for products that have been familiar to us for years. Wrigley's Spearmint Gum, always enjoyed for its chewing satisfaction, is now proving with the fighting men overseas many benefits which will be useful to you in peacetime. One of the big factors in mass production is the alertness and efficiency of the man on the job. The chewing of Wrigley's Spearmint will help keep you alert and wide-awake during those work periods that, while seemingly dull and monotonous, call for watchfulness in order to get perfection in the final assembly.

You can get complete information from Mid-States Equipment Co., 2137 S. Wabash Avenue, Chicago 16, Illinois.



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For HEATING to Straighten or Bend, etc.

Y-168

lumber and other forest products during the normally peak summer season. According to Brundage, from April to November log production normally exceeds use in order to build up a log inventory to carry the mills and other forest products industries through the winter months.

During this period, however, the log inventory in the towable waters of Oregon and Washington showed a decrease of 88,000,000 feet less than last year. During September there was an actual decrease in the inventory of 32,000,000 feet. For the third quarter this year production in the Douglas fir area, Oregon, Washington, California, Idaho and Montana, is down 12 per cent as compared with the same period last year.

Manpower and tire shortages are held to be the reasons for the decrease. Brundage claims there is a total shortage of 11,000 workers in the woods and mills of the area with little prospect for an increase during the winter months.

Several Portlanders are starting out to make a bid for Japan's now lost Easter lily industry. Apparently there is a stretch of coastland just north of Brookings, Ore., where the average temperature is very constant and 10 degrees higher than anywhere else on the coast. This section is said to be ideal for lily bulb production. It is also claimed that one acre of lily bulbs will average between \$6000 and \$7000. Furthermore, the present promoters claim they have all the best land already bought up.

The Shefford Cheese Company, Inc., a Standard Brands organization, will soon establish a factory in Portland. The company has leased a 50x100-foot section of the old Knight Packing Company building at S.E. 8th Avenue and Alder Street and is beginning remodeling at once. At first the plant will employ only about 20 persons but later on it is expected to build a building of its own and employ from 100 to 150 persons. The new plant will manufacture from eight to ten million pounds of cheese a year.

Whatever else happens, Portland is making an undisputed record in ship-building in this war. The Kaiser yards in this area have always taken the Maritime Commission requests for extra effort seriously and the commission's last request for attack transports was no exception.

Of all the attack transport yards in the nation, Oregon Ship and Vancouver are the only two that are meeting the new stepped-up schedules, according to the commission. These two yards are turning out the complicated AP-5's at the phenomenal rate of one every four days in each yard.

To spur production through competition the commission created an AP-5 champ flag to be awarded each month to the yard turning out the most ships per way. Oregon Ship grabbed it right off the bat and held it

(Continued on Page 46)

Postwar PRODUCTION STRATEGY BEGINS HERE!



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Conveyors and conveyor systems, adapted to your particular operations, speed up material and commodity handling activities, pull handling costs down to an economical level, speed the flow and movements of production. Conveyors handle a wide range of commodities — parts, packages, units, cartons,

cans, bottles, barrels, bundles, drums, boxes. They are built in light, average, or heavy-duty types for either portable or stationary use—in a wide variety of sizes, styles and lengths.

Standard builds roller, belt, chain, slat, push bar conveyors; spiral chutes, tiering and lifting machines, portable pilers, and pneumatic tube systems, for every type of material handling and is equipped by experience and facilities to reduce your handling costs with the right type of equipment. Get the profitable answer to your material handling problem today. Write us for Bulletin No. WI-124

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Sales and Service in Principal Cities



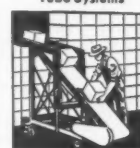
Spiral Chutes



Pneumatic Tube Systems



Tiering and Lifting Machines



Portable Pilers

COLUMBIA EMPIRE (Cont'd. from Pg. 45)

until November 1 when Vancouver took it away. In the process of competing with each other the two local yards have so out-distanced all other yards in the country that they have no hope of even getting in the race.

The loss of Oregon Ship's \$600,000 Administration Building may have some beneficial aspects. The day after the fire the Maritime Commission announced that the structure would be promptly rebuilt. This called a halt to numerous rumors that the yard would fold up as soon as its pres-

ent contracts for attack transports and Victory ships are finished and thus slowed down a drift of workers out of the yard in search of permanent peace-time jobs.

Commercial Iron Works is completing two CVE's, baby flat tops of a larger variety than any completed in this area before. The carriers were launched at the Todd Shipyard on Puget Sound and were brought into Portland to be completed. Two more of these vessels will be brought in and they will be completed by the Willamette Iron & Steel Corp.

The suggestion that Vanport City, the nation's largest war housing project, be

turned into a model industrial site for Portland is receiving considerable favorable support. The latest idea is to cut a deep-water channel leading to Vanport so that the waters of both the Willamette and Columbia could be utilized for trade. The site already has adequate rail and highway facilities.

Aluminum For Armoring Planes

Aluminum alloy as a substitute for steel for armor plating on aircraft is one of the most recent innovations in the use of this metal, according to W. P. Castleman, western division manager for Reynolds Metals Company, speaking at a meeting in Portland October 24 sponsored by the Portland Chamber of Commerce.

He reported that steel slowed the planes down and hindered maneuvering, so his company developed a new alloy, called R-301. Of the 34 parts $\frac{3}{8}$ -inch thick which were to be used, 15 had compound contours and the Army required a tolerance of .0010.

A Kirksite die was used in each case on a drop hammer, and it was found the tolerances could be held. Cost of electroplating was reduced \$150,000 in tooling alone as a result of the new method, according to Mr. Castleman.

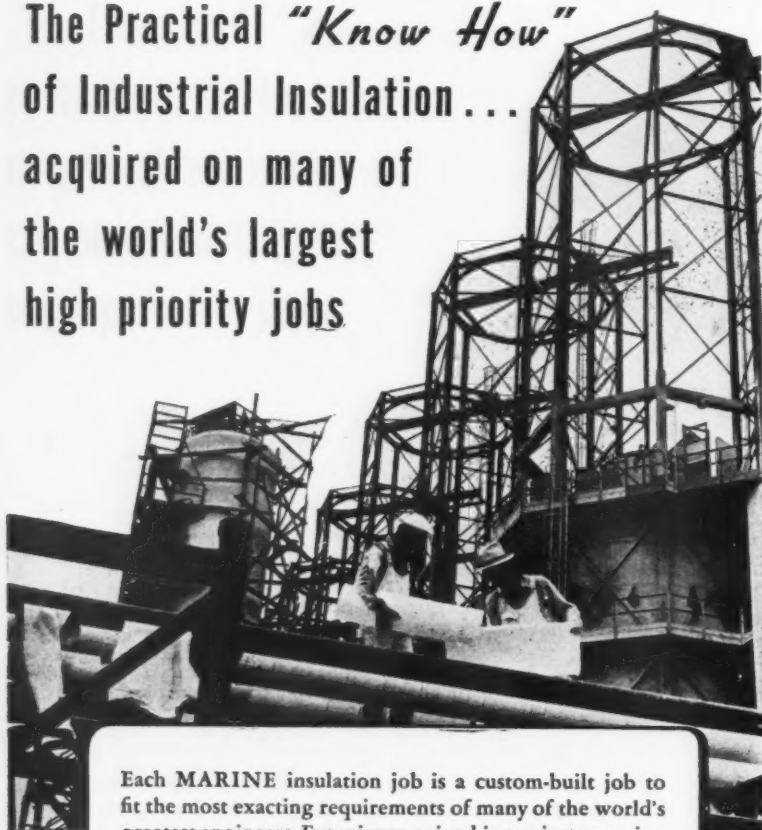
He also reported a discovery by the Aluminum Company of America that inhalation of aluminum dust by miners before entering the mines would prevent the development of silicosis, and that over a period of years this treatment would cure miners already troubled with silicosis. Some of the most important ingredients of penicillin come from aluminum products, he said.

Spot welding of aluminum has not yet developed to the point of being watertight, according to Mr. Castleman, but although it has been done in aluminum alloys the strength is limited. He said soldering of aluminum was a dangerous practice.

Violations Small

Liquidated damages assessed against 26 holders of government supply contracts for violations of child labor provisions of the Walsh-Healey Public Contracts Act totaled \$20,350 during the fiscal year which ended last June 30 in the seven western states, Alaska, and Hawaii. National total for the fiscal year was \$394,410. Manpower shortages and the tremendous increase in the number of government supply contracts, due to the war, probably were chief causes of the many violations, according to Wesley D. Ash, regional director of the Wage-Hour and Public Contract Division, U. S. Department of Labor, since only \$190 was assessed for child labor violations in the West from September, 1936, to June 30, 1943.

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Cost Planning Of Small Planes

In cost-planning the postwar small airplane a five-step basic program was recommended at the National Aeronautic Meeting of the SAE at Los Angeles in October by A. G. Tsongas, chief engineer, and F. S. Macomber, industrial engineer, of the Stinson Division of Consolidated-Vultee. They said a dollar saved in direct cost meant \$2 off the selling price. Their recommendation was as follows.

1. Educate the designer on every cost factor affected by design (material costs, labor costs, tooling costs).
2. Give him (a) a manual of summarized material and purchased parts costs for ready reference.
(b) a check list to use in avoiding bad practices which increase labor or tooling.
3. Give his initial drawings constructive criticism by a group of key manufacturing men.
4. Provide a consulting group in the Engineering Department which is capable of accurately estimating standard costs on each design. The designer may then check one idea against another, and by analyzing the good features of each, arrive at a combination design that will be as close as possible to the ideal. Remove the personal opinion factor and substitute facts.
5. Set up a goal in cost per pound for him to try to meet, allocating a definite ceiling price to each major assembly in the ship based on initial forecasts of what can be done.

They also submitted a break-down of direct and indirect costs on a light plane, as follows:

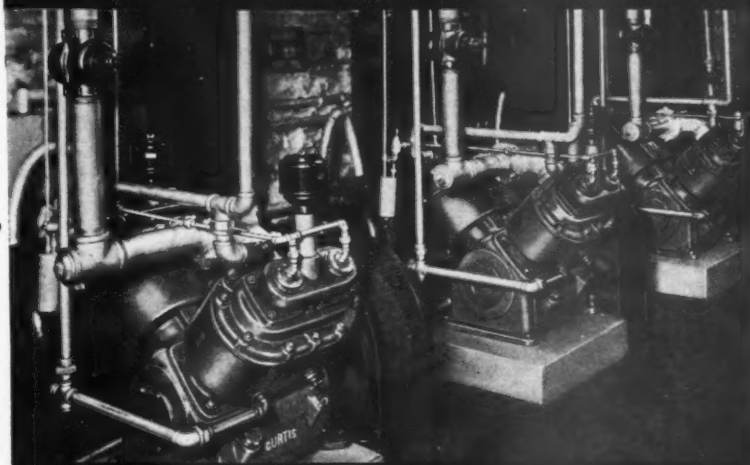
Direct Cost	Typical Light Plane	% of Total
Raw Material	\$ 200.00	10.0
Purchased Parts	590.00	29.4
Direct Labor	230.00	11.5
Tooling	70.00	3.5
Engineering	25.00	1.2
Total	\$1,115.00	55.6
Indirect Cost		
Factory Overhead	\$ 230.00	11.5
Administrative O.H.	58.00	2.9
Basic Mfg. Cost.....	1,403.00	70.0
Plus 10% Profit.....	140.00	7.0
Total	1,543.00	77.0
Dealer's Comm. 30%.....	463.00	23.0
Selling Price	2,006.00	100.0

Comparative Costs Of Construction

Cost indexes of construction by the American Appraisal Company based on four types of buildings, frame, brick, concrete and steel in 30 representative cities, include the following national average and the trend of four Western cities, based on 100 for 1913 (indexes reflect cost trend in each city but do not indicate the relative trend between cities):

	National Avg.	Denver	Seattle	S.F.	L.A.
Prewar normal (1926)	217	204	199	188	195
Depression low (1933)	150	141	136	138	134
1943	232	233	235	232	236
June, 1944	260	235	267	236	238
July, 1944	270	235	267	237	240
Aug., 1944	261	238	269	238	241

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Installed in 1936 at the St. Louis Plant of Carter Carburetor Corporation, the three Curtis Air Compressors shown above were on almost continuous 24-hour duty for five years. During this period, they operated at 80 lb. pressure, providing air for the entire plant.

J. H. Klasey, plant engineer, states that "they gave surprisingly good service with very little maintenance."

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REGIONAL REVIEWS

TEHACHEPI TO TIJUANA

REPORTS at the recent Southern California Committee for Economic Development Conference brought forth some interesting information in regard to the problem of post-war reemployment, because it gave the views and expectations of some of the local districts that constitute this larger area.

We are not going to give very much space to the Los Angeles picture, because

it receives so much attention, but we must bring out the point that Carleton Tibbetts, well-known Los Angeles industrial figure, made in his report. He stated that "one basic job" provides employment for 4.6 persons in other types of work including sales, retail industries, service industries, transportation and public utilities, and recreation industries. (If you are worried about 4.6 persons, we'll say that 100,000 "basic

jobs" provide 460,000 other jobs.) As you read the report from various districts, you will see why this is important.

Los Angeles—We'll report again that Los Angeles knows all about the aircraft and associated industries, and the shipbuilding and associated industries. It does not minimize the problem that will come from cut-backs. It does know that these industries will gradually slip back, but it still expects them to meet pre-war employment marks at the very least.

There were many other industries that employed the one basic worker in this area prior to the start of war work, and most of them are in a better position than before. Some 25 per cent of the smaller plants that have replied thus far expect to employ 25 per cent more than before the war. Now local industries have been added. Some plans have been announced. Others are known to a few, but are not public.

Eastern business seems to be bullish on the future of the West. Fifty firms have purchased property on which they will build. Some 200 more are investigating opportunities in the West.

Los Angeles is anxious to keep skilled workers in the area and will help to get them jobs when their war jobs end. No worry over loss of war worker population in general, because it was expected. It is the belief that newcomers from ranks of ex-servicemen will offset, and the area is glad to welcome aggressive young people. Belief is that Southern California will continue to grow in population if the West works together for "a fair shake" on many fundamental points.

Las Vegas, Nevada—The southern portion of Nevada is included in this CED district. Clark County had 16,000 population before the war; it jumped as high as 55,000; and is now 35,000. When Basic Magnesium was being built, there were 13,000 workers on that project . . . almost as many as were previously in the entire county. Basic Magnesium was the big thing during the war period. Now it is closed.

And yet Las Vegas expects to retain a population of 35,000. It has big plans to make itself one of the outstanding recreation areas of the West. It has always figured 70 per cent of its income from the tourist trade, and it looks for bigger and better tourist trade after the war with faster transportation, and a desire on the part of people to make up for lost traveling time. Expects to attract many from Southern California who will be regular visitors.

Santa Barbara—A good-sized city of fine homes and recreational facilities. Almost no industry before the war. Little now. Doesn't want to attract industry. Feels that there is room for a very fine city of the type that it wants to be.

CED survey brought out some surprising things on employment in this city. Many of the larger homes employed more

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PROPERTIES	Synalite	NATURAL RUBBER
Tensile Strength	Good	Excellent
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Adhesion to Metals	Excellent	Excellent
Adhesion to Fabrics	Excellent	Excellent
Resistance to	Abrasion	Excellent
	Heat	Good
	Cold	Excellent
	Compression Set	Good
	Oils	Excellent
	Chemicals	Poor
	Sunlight	Good
		Fair

Research to improve on this record is continuing right now, and every day in Pioneer's development laboratory—to insure you the best possible service from available synthetic rubbers. Remember—Pioneer is working with all the basic Synthetic Rubbers to develop the best possible compounds for use in your Industrial Rubber Goods. Pioneer Rubber Mills, 353 Sacramento St., San Francisco, 11, Cal.

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PIONEER

Job Tailored

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persons than many a small business. Can't get them now, so will be able to provide employment after the war. Hotels and recreational facilities will provide jobs as all understaffed now.

If national income at 1940 level, Santa Barbara will employ about same as before because it has been found that people spend it if they are making it, and Santa Barbara gets its share. If national income should go to figures that are generally discussed for post-war days, Santa Barbara will be in there doing more things to attract tourists and to make them happy during their stay. More hotels, restaurants, and recreational facilities . . . all providing jobs.

Santa Monica—Another city that has always considered recreation its business. It has a large post-war public works program to make itself even more attractive. One of projects it will boost is Los Angeles sewage disposal plant to eliminate pollution of beaches. It will also be for beach improvement programs. It wants freeways to make it easier for people to get to the beach from Southern California, and from everywhere.

Santa Monica, unlike Santa Barbara, does want industry. The big Douglas plant has provided employment for many. Santa Monica expects Douglas plant to greatly exceed its pre-war employment. Expects many plants serving Douglas to continue to do so. Others are converting.

Some government buildings will, it is understood, be sold to private industry to create other industries. In addition, some 100 acres has been zoned for industrial sites, and Santa Monica hopes to show that business and pleasure can be combined into something that is profitable.

Long Beach—Long Beach grew from 162,000 to 268,000. Has 83,000 war workers, 14,000 less essential workers, 13,000 non-essential workers. Some 42.7 per cent are gainfully employed in this city, which is highest record of employment in U. S. Long Beach regarded itself as a tourist city prior to the war, although it did have industry in and around it.

The city sees an opportunity to provide employment for some of the 50,000 who will need work if they are to stay in the area. A 1200-acre tract has been set aside for industrial development and everything is being provided to make it attractive for industry to establish there. Start has already been made in the sale of industrial sites.

Monrovia—Not an industrial town in true sense although has 16 plants, but four largest do not employ 1,000 persons all told. All are expected to show expansion in post-war employment. Consumer survey showed Monrovia citizens plan to buy many things. Merchants are preparing to serve them.

One firm employing 50 before war now employs 70. Expects to employ 120 in post-war days. Nineteen new business firms

(Continued on Page 50)



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By Hughes-Keenan

Load-Handling Specialists Since 1904

REGIONAL REVIEWS (From Page 49)

started in past 90 days. Survey of service men indicates that many will not expect employment in Monrovia after war. Another interesting fact is that 18 churches in the area are in very fine financial shape and will be able to move forward on improvement programs.

San Diego—City with problem. 276,000 civilians before war, 415,000 now. Total population before war 289,000, now 609,000. Interviewed 75,000 new workers. Of this number, 75 per cent will stay if jobs, but one-half of that number will leave if

no jobs. San Diego figures will need about 25,000 more jobs than before war. Thinks problem serious to work out, but believes San Diego will have increased number. U. S. Navy personnel and families, all of whom will need to buy things. Badly need public works to take care of population, and have money for it. Estimate 10,000 homes can be built yearly for number of years.

Riverside—Primarily agricultural before the war, but some industry. More industry now. Army camps brought in many, many persons . . . civilian workers. Estimate 11,000 jobs prior to war, 23,000 now. Some

80 per cent of new population wishes to stay, and Riverside wants to continue to provide jobs for them.

Alhambra—Has growing industrial area that fits into the Los Angeles metropolitan area pattern. Alhambra plans to grow as a community, and is working out "face-lifting" program for its business district, and is working on other features to attract people to make this their home.

Pasadena—Employed 1,000 in industry before war, 13,000 now; expects 8,000 employment after war. Was attractive residential area before war, but leaned to the arts and sciences, being home of California Institute of Technology. Its industries seem to run to types that can enter into new post-war consumer developments. Pasadena also has \$37,000,000 public works program to continue its standing as fine residential area.

Glendale—One-half Glendale residents work in Los Angeles. Others work in substantial Glendale industrial area. Feels somewhat stymied at present because can not attract new plants on account restrictions as critical labor area.

Burbank—Burbank grew up during the war. Lockheed employed as many as were in this city prior to the war. Burbank looks forward to good industrial future. It has a very large public works program of a necessary nature to make the area as attractive as possible. Expects its local industries to continue to provide employment after the war for large number workers living in area, because now employ many from other areas.

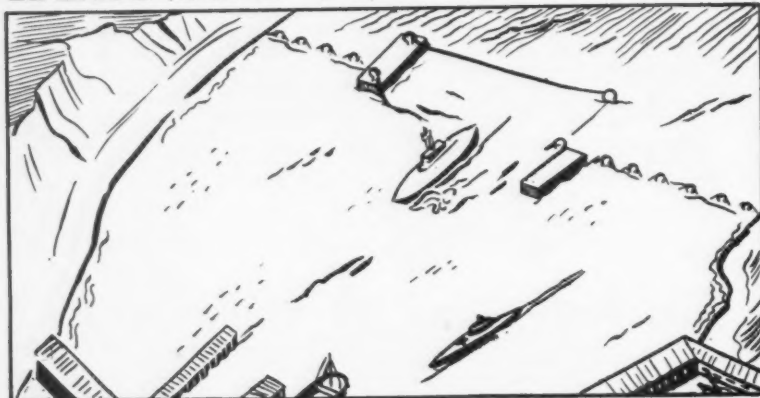
Pomona—Has had 123 new business firms open since January 1. Hasn't many strictly war industries, so doesn't have serious problem of some areas.

SUMMARY—This is a quick picture of things that have happened in some areas, some of the things that are happening. Remember that agriculture is a large industry in the area surrounding many of these cities. Processing of agriculture products is another big industry. The petroleum industry is generously scattered throughout the area. There are basic chemical industries. There are building material industries. The war-born Kaiser steel plant at Fontana is in the heart of a former agricultural center, and its influence is felt in many cities adjacent to it.

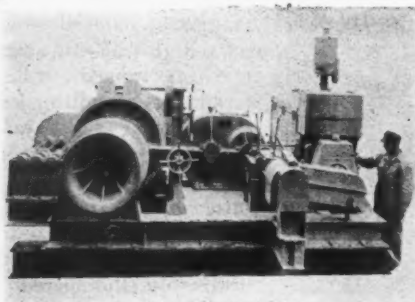
Agriculture, agricultural processing industries, petroleum, basic chemical, and basic building material industries are mentioned because they provided the "one basic job" needed to give the 4.6 jobs in pre-war years. Kaiser's steel plant is mentioned because it is something new that has been added.

Los Angeles metropolitan area is mentioned because it provided the "one basic job" that helped the 4.6 other jobs in many "bedroom" cities. But they have also

KEEPING THE AXIS OUT



When aircraft carriers, battleships, transports, etc., are in harbor it is imperative that enemy submarines be kept out. Anti-submarine nets and operating equipment must be strong, sure, quickly maneuverable and dependable.



These powerful Diesel-operated winches, capable of pulling over 50 tons, were designed and built by Engineering Products Co. for operating the anti-submarine nets.

On Engineering Problems call Engineering Products

ENGINEERING PRODUCTS CO.

1600 SO. SAN PEDRO ST. • Prospect 7044 • LOS ANGELES 15, CALIF.

developed and are developing their own "basic job" industries. Los Angeles itself is developing more "basic jobs" also.

CONCLUSION—Draw your own.

MOST INTERESTING FACT DEPT.: The enthusiastic committeeman from Santa Barbara reported that his committee had some trouble in analyzing pre-war and post-war employment because one well-to-do man, who had a sizable estate, employed 50 persons prior to the war.

Aluminum Clothespins

Another example of new uses for light metals is the spot authorization recently given for use of surplus aluminum from production of war planes for clothespins granted the Industrial Flock Finishing Company of Los Angeles, as a sideline to their present war contracts. Shaped like a bobbie pin, the new product will be turned out in a variety of colors applied as a dye by the same "anodic" plating process used to corrosion-proof rivets and other small aircraft parts. Production is expected to begin shortly as manpower is released by completion of certain war work now under way.

Manpower Angle

Manpower shortage was the loophole through which CIO got control of Standard Oil Company tankers. For many years Standard's tanker crews have had an independent union that has resisted all encroachments from AFL or CIO. Through the manpower shortage the CIO Sailors' Union of the Pacific got enough of its men placed on the tankers to call for an election to determine the bargaining authority, and the independent union lost out.

Production Awards

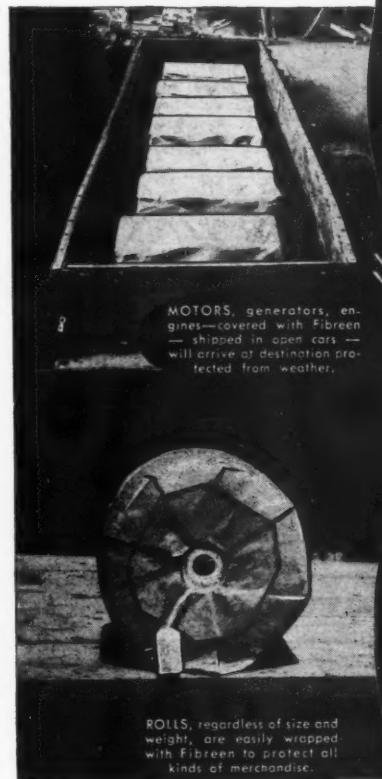
Recent awards for outstanding efficiency in war production include the following:

- Paulsen & Nardon, Los Angeles, third star to Army-Navy "E" flag.
- Boeing Aircraft Co., Seattle, fourth star to Army-Navy "E" flag.
- Pacific Screw Products Corp., South Gate, Calif., second Army-Navy production award.
- Columbia Steel Co., Torrance Works, Maritime "M" pennant.
- Atlas-Imperial Diesel Engine Co., San Francisco, second star to Army-Navy "E" flag.
- Factory Motor Car Co., Portland, Army-Navy "E" award.
- Phelps-Dodge Copper Products Corp., third star for Maritime "M" pennant.
- General Machinery Co., Spokane, second star for Army-Navy "E" flag.
- Crown Zellerbach Corp., Seattle Charcoal Div., Seattle, Army-Navy "E" flag.
- L. H. Eubank & Son, Inglewood, Calif., Army-Navy "E" flag.
- Packard-Bell Co., Los Angeles, Army-Navy "E" flag.
- United Air Lines, Inc., Modification Center, Cheyenne, Wyo., Army-Navy "E" flag.
- Campbell Products Co., Campbell, Calif., Ber-cut Richards Packing Co., Sacramento, Cedar-green Frozen Pack. Corp., Seattle, S & W Fine Foods, San Francisco (Redwood City plant), War Food Administration "A."

Use



for
**DEPENDABLE
PROTECTION
TO DESTINATION**



MOTORS, generators, engines—covered with Fibreen — shipped in open cars — will arrive at destination protected from weather.

ROLLS, regardless of size and weight, are easily wrapped with Fibreen to protect all kinds of merchandise.



CASES lined with Fibreen are moisture and dirt proof. It's flexible — tough — waterproof — adaptable to all types of cases.



BALES of all sizes and shapes are wrapped with Fibreen for effective protection.



TRACTORS and other machinery, protected from the elements by Fibreen, are safely shipped in open cars.

FIBREEN protects war shipments in transit — assures arrival at destination in usable condition. Those very same properties that make Fibreen a dependable protection for war goods are the ones you need to protect your peacetime shipments to destination. Fibreen is furnished in various weights and widths that meet every wrapping requirement.



Tear-resistant, waterproof and flexible, Fibreen is the ideal wrapping for small packages.

Send for a Sample!

Test It By Tearing!

See How Tough Fibreen Is!



Manufacturers of SISALKRAFT, FIBREEN, SISAL-X, SISALTAPE AND COPPER ARMORED SISALKRAFT

Puget Sound Trends And Transcriptions . . .

PUGET SOUND area business men have been conducting a "postwar products survey" that consists of a canvass, item by item, of the products listed in the Census of Manufacturers, in the light of their adaptability to being manufactured in the Pacific Northwest. Before very long the results probably will be ready for announcement, and mean-

while the methods pursued warrant description.

The problem is attacked from two directions, production and marketing, and by four different groups, representing the Seattle Advertising Club, Seattle Chamber of Commerce, Manufacturers Association of Washington and the University of Washington. Findings of each group

are averaged together to get the consensus of opinion.

For each item a committee is set up composed of representative men informed on the particular subject, or rather two committees, one for production and the other for marketing. The production men pool all the available information as to what additional manufacturing can be carried on in their line, checking over raw materials, machine facilities, labor skills, production methods, mass production, custom operations, additional processing, new product design, and the like.

Then the marketing men study over what can be sold in the territory, not only what the production group has told them about, but other things that the production men may not have thought of at all. Reports indicate that there has been a very cooperative spirit manifested; as one observer commented, "they are very honest about it."

Usefulness Proved

Instances already have come to light where those in the sales side have had brought to their attention marketable items they did not know could be produced by plants in this area, perhaps even right in their own plants. Of course the risk is run that some "sharpshooter" may take advantage of the situation for his own benefit, but that does not seem to disturb anyone.

This survey is a companion piece to the "panels" that have been conducted for several months by the Seattle Chamber of Commerce, and which have been given considerable publicity. In these sessions various manufacturers in turn have laid their postwar production and marketing problems before a group of fellow industrialists for discussion and counsel.

Not only has the one seeking help found much light shed on his problems by the questions, advice and comment of his fellows; frequently some of the latter have reported that they were sure they must have gotten more out of it than the help-seeker himself.

In one case a small operator was saved from closing down entirely when his war contracts terminated. Sixteen panels have been held to date.

New Industrial Area

Seattle industrial district bottleneck is about to be broken, through an extension of the Duwamish Canal. The industrial department of the Chamber of Commerce has revived the project, on which nothing had been done since the surveys made in 1935, and pushed action through government channels so that an appropriation from Washington is expected shortly.

Practically all of the close-in industrial sites have been taken up and there was no room left for expansion southward on the flats that stretch from the present manufacturing plants down past the big Boeing establishments. A couple of intervening residential zones further complicated the problem.



The political election is over, but . . .

You still are faced with the problem of electing the supplier to whom you will look for needed chemicals—will it be an eastern supplier or a western supplier?

As a candidate for your business, we set forth our qualifications:



1. over 50 years experience manufacturing industrial and agricultural chemicals.
2. complete understanding of western chemical requirements.
3. adequate manufacturing facilities to supply these requirements.
4. three strategically located Western plants (San Francisco, Los Angeles and North Portland) from which to fill orders promptly—no time lost in long transcontinental hauls.

We hope you will cast your ballot for us—elect **STAUFFER** to be your supplier of industrial chemicals.

STAUFFER CHEMICAL CO.

The new project will drain many acres of marshy ground and provide for a straight extension of the canal instead of a circuitous slough. Not only will new manufacturing sites become available in large number, practically opening up the way for uninterrupted growth clear to Tacoma, but the price situation is under control so that new enterprises will not be frightened away by the cost of the land.

Another feature unusual in industrial districts is that the new area lies between two ranges of hills on which good residential districts can be developed close by, making it possible for workers to live convenient to their work and still have desirable neighborhoods in which to reside.

The channel is to be 30 feet deep, providing passage for tugs and barges. Eventually it may be possible to bring ships into the canal, just as is done now close to town.

Honest Speculation Good for Mining

Speculative mining investments, provided the money is honestly spent in actual mine research, development and equipment, are favored by Stanley A. Easton, president of the Bunker Hill and Sullivan Mining and Concentrating Company, Kellogg, Idaho. Speaking before the northwest Conference of the Committee on Economic Development, he said:

"Personally, I favor the financing of many prospecting and developing enterprises by the sale of so-called penny stocks under regulations which require that such monies be spent honestly in actual mine search, development, and equipment.

"In the study of the ancestral tree of nearly every successful mining enterprise you will find in the branches of such tree numbers of wildcats. I use the term in its best sense.

"As you know, the oil industry has adopted into its nomenclature this term, applying it to speculative drill holes. Most of these speculative mining ventures are entered into by informed people with their eyes wide open, willing to take a chance where they will have an honest and fair run for their money.

"I consider that the future of the mining industry is unsafe if and when it becomes impossible for a successful prospector to be a rich man while at the same time his efforts lead to a far greater enrichment of his community and the nation.

"Only within the last few months in the state of Idaho have the expenditures of risk money by intelligent and skillful operators resulted in finding most important lead-silver ore bodies in the deep mines in the 60-year old Coeur d'Alene district and in the discovery, development and mining in a virgin area in Idaho County of ore bodies of first magnitude."



THIS "SWORD" Stayed in the Ground!

America's day of "turning plowshares into swords" in wartime is past. From industry's great assembly lines swords and plowshares now enter the fight *together*. Whatever your part has been in creating our modern miracles of production, your *extra* effort to make possible the delivery of war materials and essential civilian goods *side by side* has made you a Citizen Soldier.

IN WAR AND PEACE

Just as you have developed new methods and new materials under the pressure of war, so have we kept pace by improving and introducing new-purpose lubricants. One of the most remarkable of these is Cadel A. P. Heavy Duty Lubricant, an all-purpose oil equally efficient for wear-protection and engine-cleansing in either gasoline or diesel motors. Ask your Associated representative more about Cadel A. P. You'll find his technical experience helpful in *all* your wartime lubrication problems. And you can rely on his up-to-the-minute information concerning petroleum's place in peacetime production.

TIDE WATER ASSOCIATED OIL COMPANY



GASOLINE POWERS THE ATTACK
—DON'T WASTE A DROP!



CADEL A. P. HEAVY DUTY LUBRICANT • VEEDOL AND TYDOL MOTOR OILS
CYCOL INDUSTRIAL LUBRICANTS • ASSOCIATED AVIATION ETHYL AND
FLYING A GASOLINES • FISK TIRES • AERO BATTERIES

WPB Lists Additional Spot Authorizations

ADDITIONAL "spot authorizations" granted by WPB to Pacific Coast firms for reconversion to civilian production in addition to those reported in the November issue of *Western Industry* include the following:

Seattle

H. L. Mesher Sheet Metal Mfg. Co., pots, pans.
Martin Fish Lure Co., fishing gear.

Kirsten Pipe Co., pipes.
Washington Furniture Mfg. Co., box springs and spring-filled mattresses.
Denison Mattress Co., spring-filled mattresses.
Seattle Brass Co., brass risers and nuts for irrigation pipe.
Pacific Mattress and Upholstering Co., spring-filled mattresses and box springs.
Carman Mfg. Co., inner spring mattresses and crib springs.
National Steel Corporation Co., septic tanks and electric hot water heaters.

The Sperry Winn Electric Co., electric heaters.
Morel Foundry, statuary and ornate castings.

Tacoma

Sound Mattress & Felt Co., spring-filled mattresses.

Junior Line Furniture Co., crib springs.
A. J. Holmes, side-arm electric heaters.
Ace Mfg. Co., side-arm electric heaters.

Spokane

Calkins Mfg. Co., farm machinery, sub-soilers, seed preparation machines, rod weeder.
Lindgren Bros., metal signs.

Other Washington

Cheney: Cheney Weeder Co., farm machinery.
Bellingham: Bellingham Lead Products Co., lead sinks.
Bothell: Edward Swift, lawn springs.
Grange: Yakima Bait Co., fishing tackle.

Portland

Bunnett Venetian Blinds, steel slat Venetian blinds.

Wesix Electric Heater Co., electric air heaters.
Monte's Mfg. Co., sofa beds, box springs, spring-filled mattresses.

Grigg Neon Sign Co., neon and metal signs.
Western Sleepmaster Co., spring-filled mattresses.

Oregon Sign & Neon Corp., neon signs.
Till-Master Mfg. Co., farm machinery and road equipment.

Portland Fabricating Co., metal safes, desk and chair parts, indoor fireplace equipment.
Universal Bed Company, metal beds.

Columbia Ladder & Woodenware, brass and silver washboards.

Reliance Mfg. Co., conversion range oil burners.

R. M. Wade & Co., farm scraper.
S. Birkenwald Co., refrigerated display cases.
Wesix Electric Heater Co., electric storage water heaters.

Portland Furniture Mfg. Co., soft beds.
Ply-Metl Co., commercial cooking utensils.
The Irwin-Hodson Co., steel highway and traffic signs.

Pettit Bedding Co., innerspring mattresses and box springs.

Collins Concrete & Steel Pipe Co., steel septic tanks.

Universal Bed Co., metal roll-away beds.

FREIGHT HANDLER'S EQUIPMENT HEADQUARTERS

COLSON INDUSTRIAL TRUCKS are known in every shipping center wherever heavy bulky materials are handled.

At Colson, every style and kind of truck is available from platform trucks with push handles, pipe stakes or side slats to the famous Colson Lift-Jack System with wheeled skid and lift jack. There are light, medium and heavy duty hand trucks . . . drum handling trucks . . . dolly trucks . . . furniture dolly trucks . . . and wagon trucks, as well as special tray trucks and clothes hamper trucks.

Colson wheels and casters are equipped with rubber or all-steel tires, ball bearings and pressure-gun grease fittings. All wood platforms and parts are kiln dried hardwood.

When you need trucks, call Colson — Headquarters for Freight Handler's Equipment. There are three warehouses; phone or write today!



COLSON

EQUIPMENT & SUPPLY CO.

100 ITEMS
BUILT ESPECIALLY FOR
HANDLING
HEAVY
MATERIALS

LOS ANGELES 13
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Trinity 5744

OAKLAND 7
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Templebar 3556

SAN FRANCISCO 5
235 Mission St.
Garfield 0282

SHIPPING ROOM SUPPLIES

FACTORY EQUIPMENT

"MARKWELL" STAPLING DEVICES

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SALES CO.

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88 First Street Garfield 6694

OAKLAND 12
608 16th Street Glencourt 1174

LOS ANGELES 14
122 E. 7th Street Vandike 4446

A. D. Mitchell, dust pans.
Columbia Neon Co., neon signs.
Ray's Upholstery, dual sleeping equipment.
Webb Electric Co., electric heaters.
Security Sign Co., neon identification signs and metal signs.
Custom Iron Works, electric storage water heaters.

Other Oregon

Eugene: R. H. Pierce Mfg. Co., steel pipe fittings.

San Francisco

Wesix Electric Heater Co., electric air heaters.
Edward McRoskey Mattress Co., innerspring mattresses and box springs.
William Wallace, gutters, downspouts and stove pipe.
Continental Venetian Blind Co., steel Venetian blinds.

Oakland

Marchants Faucets, brass faucets.
Kleer Klean Mfg. Co., floor and wall furnaces, conversion oil burners.
Golden Gate Mfg. Co., flower holders.

Other Northern California

Fresno: Roberts & Seib, farm trucks.
Rio Vista: Blackwelder Iron Works, farm equipment.

Los Angeles

Life Time Products, metal file fasteners.
J. & R. Mfg. Co., garage mechanic's creepers.
Hurum E. Reeve Co., paring knives.
Kessco Engineering Co., photographic film holders and printing frames.
Atlas Bedding Co., soft beds.
Sealy Mattress Co., box springs, innerspring mattresses, bedsprings.
Pacific Bedding Co., ditto.
Goodyear Bedding Co., ditto.
C. B. Van Vorst Co., ditto.
S. Karpen & Brothers, ditto.
The Columbia Mills, Inc., metal slat venetian blinds.
Boettger Tool & Die, auto exhaust repair extension.
Stauffer Chemical Co., hand dusters.
Commercial Enameling Co., enameled cast iron sinks.
Fending Mfg. & Sales Co., poultry watering valves.
Phonelock Company, zinc alloy die castings for coin collection telephones.
American Specialties Mfg. Co., auto hub caps.
Bauer-Peterman Co., aluminum foil closure liners.
Burkett Fence Co., gates.
City Refrigerator Co., refrigerated display cases.
Cooperative Mattress Assn., box springs.
Gregory Fount-O-Ink Co., pen bases.
Micromatic Products, automobile jacks and tire pumps.
M. E. Shaw Sheet Metal Co., flower vases.
Troy Sheet Metal Works, outdoor cooking grills.
Virtue Bros. Mfg. Co., metal office chairs, fireplace and barbecue equipment.
A & Z Stove & Mfg. Co., commercial griddles and hot plates.
Hill Upholstering Co., dual sleeping equipment.
Hopper Machine Works, Inc., irrigation valves.
Thermador Electrical Mfg. Co., electric air heaters.
Automotive Development Co., steam vapor and cleaning tanks.

California Divan Co., dual sleeping equipment.
Cox Air Gauge System, lubwells.
Flex-O-Coil Products, wire loose leaf binding elements.
In-A-Floor Safe Co., floor safes.
Malley Mfg. Co., portable electric table stoves.
D. B. Milliken, bacon racks.
Powell Neon Sign Co., neon signs.
C. P. Tenold, metal storage cabinets.

Other Southern California

Glendale: Quality Upholsterers, dual sleeping equipment.
Hawthorne: Auburn Furniture Mfg. Co., dual sleeping equipment.
Pasadena: Crown City Mattress Works, innerspring mattresses.
San Bernardino: San Bernardino Vault Co., incinerators.

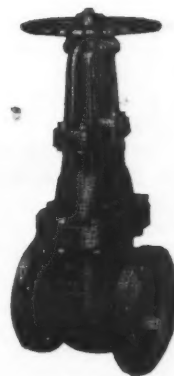
Alhambra: Boardman Precision Mfg. Co., golf carts.
Encino: Ames Plastics Co., portable table lamps.
Culver City: Wilsdan Mfg. Co., carpet sweepers.
Inglewood: Olmsted Mfg. Div. of Southwest Development Co., auto hand tire pumps.
Long Beach: Sevenstrand Tackle Mfg. Co., deep sea fishing leaders.
Lynwood: W. & W. Foundry, aluminum cooking utensils.
Monterey Park: Monterey Products Co., aluminum pots and pans and fruit juice extractors.
Puente: Major Aircraft Foundry, household aluminum fry skillets.

(Additional spot authorization listings will be found in the "West on its Way" section of this issue.)

WALWORTH Iron Body Wedge Gate Valves

for

LONGER WEAR



A General
Service
Valve

Suitable for
Steam, Oil,
Water, Gas

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The outside screw and yoke type illustrated above is preferred on steam and other services above atmospheric temperature because the outside screw threads do not come in contact with the fluid in the valve. It is regularly furnished with bronze stem, bronze seat rings, and bronze disc faces.

The most exacting manufacturing and inspection processes put WALWORTH iron body valves in a class by themselves.

Send for your copy of Walworth Catalogue No. 42, which describes our complete line of iron gate, globe and check valves, as well as all other WALWORTH valves, fittings and tools.

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Here is DPC's List Of Western Plants

FOR the information of everyone interested in postwar possibilities of Defense Plant Corporation plants and plant sites, a list of all those located in the 11 Western states is given below, with their Plancor numbers, operating companies and square feet of floor space. The number of buildings and equipment is omitted for lack of space. A list of Army-owned plants is also given.

"Announcement that a war plant is to be offered for future lease or sale by the Reconstruction Finance Corporation does not mean that production for war is to be stopped in that plant or that workers are to be laid off," Jesse H. Jones, Secretary of Commerce, states. "As a matter of fact, only one DPC plant now in war production has been advertised for sale. That was because the present operators wanted to negotiate for its purchase at this time so as to be able to plan its conversion to civilian production after it is no longer needed for the war effort."

Beyond the fact that most of the contractors operating plants all over the coun-

try have advised Jesse Jones, secretary of commerce, that they would be interested in purchasing or leasing, mostly leasing, no information is available at this time as to the situation regarding the plants in the West.

Arizona

- 1916, Claiborne F. A. Housing, Wickenburg, 5,400.
- 1222, General Fiber Products Corporation, McCannico, 7,400.
- 1095, Claiborne Flight Academy, Wickenburg, 87,700.
- 1484, Southwest Airways Co., Mesa, 115,500.
- 944, Airesearch Manufacturing Co. of Arizona, Inc., Phoenix, 134,000.
- 862, Thunderbird II, Phoenix, 144,700.
- 332, Castle Dome Copper Co., Miami, 163,900.
- 488, Southwest Airways, Inc., Glendale, 166,600.
- 1093, Ryan School of Aeronautics Tucson, 189,000.
- 434, Phelps Dodge Corporation, Morenci, 338,900.
- 275, Goodyear Aircraft Corporation, Litchfield Park, 381,200.
- 1726, Alcoa Housing Project, Phoenix, 493,200.
- 773-F2, Aluminum Co. of America, Phoenix, 1,414,400.
- 1829, Housing for Aluminum Plant, Phoenix.

California

- 1558, California Scrap Iron Corp., Pittsburg, 1,400.
- 1580, California Rock Salt Co., Saltus, 5,200.
- 1591, Westvaco Chlorine Products Co., Newark, 7,300.
- 1167, Southern California Gas Co., Los Angeles, 9,300.
- 1718, Aerojet Engineering Corp., Azusa, 9,600.
- 1699, Morton Air Academy Housing Project, 12,000.
- 514, Vard, Inc., Pasadena, 16,200.
- 463, Industrial Formings, Burbank, 17,600.
- 912, Wilshire Oil Co., Norwalk, 21,500.
- 1295, Westvaco Chlorine Products Corp., Newark, 21,700.
- 1926, Cutter Laboratories, Inc., Berkeley, 23,000.
- 639, Joshua Hendy Iron Works, Berkeley, 28,100.
- 1593, Standard Oil Co. of California, El Segundo, 28,300.
- 1041, Mohawk Petroleum Corp., Bakersfield, 29,000.
- 828, Pacific Aviation, Inc., Mines Field, 30,900.
- 1873, Western Electrochemical Co., Los Angeles, 32,300.
- 1887, Compak Foods, Inc., Santa Ana, 41,200.
- 1693 and 1677, Polaris Flight Academy Housing, 42,000.
- 1309, Axelson Mfg. Co., Vernon, 47,700.
- 308, National Supply Co., Torrance, 66,400.
- 963, Shell Chemical Co., Torrance, 66,800.
- 183, Menasco Mfg. Co., Burbank, 101,800.
- 795, Douglas Aircraft, Inc., Los Angeles, 105,700.
- 1567, Pacific Tube Co., Los Angeles, 111,500.
- 1515, Polaris Flight Academy, Lancaster, 112,300.
- 890, Douglas Aircraft Co., Inc., Santa Monica, 113,500.

DOUBLE

the Cutting Life of Your Saws!

Why do saws break out teeth, crack, or lose their temper? Nine times out of ten because they are used when too dull or imperfectly filed. They get too hot,—and the trouble starts.

The Foley Automatic Saw Filer files saws so much faster you can always work with sharp saws, which not only prolongs saw life but increases power saw output from 25% to 40%. Saws are automatically jointed as filed, keeping all teeth even in size, shape, spacing. Foley-filed saws run so smooth, true and cool that breakage is practically eliminated. If your saws are hand-filed,—investigate!

ONE MACHINE FILES ALL SAWS



The Foley Automatic Saw Filer is the ONLY machine that files cross-cut circular saws 3" to 24" in diameter, band saws up to 4½" wide,—all hand saws. Simple attachments come with the machine for each type of saw. A Foley Automatic Saw Filer can be purchased under a CMP-5 MRO.

30-DAY TRIAL IN YOUR OWN PLANT

You may have the privilege of a 30-day trial in your own shop, on your own work. Actual use of Foley-filed saws is more convincing than anything we can say.

FOLEY Automatic SAW FILER

FOLEY MFG. CO. 74 2nd Street N. E., Minneapolis 13, Minn.

Please send literature on the Foley Automatic Saw Filer and details of your 30-Day Trial.

Name

Address



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Re-power

YOUR TRUCKS

with

READY-POWER



THE POWER THAT MAKES TRUCKS DO MORE WORK

THE GAS-ELECTRIC POWER PLANT FOR ELECTRIC TRUCK OPERATION

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7813 California Ave., Huntington Park, Cal. 1424 11th Avenue, Seattle, Washington

409, Mira Loma Flight Academy, Oxnard, 120,100.
 406, Cal Aero Academy, Ontario, 125,400.
 432, Twentynine Palms Air Academy, 29 Palms, 137,500.
 407, Tavares Construction Co., National City, 151,900.
 707, Permanente Metals Corp., Manteca, 159,800.
 807, Coast Aviation Corp., Dos Palos, 162,100.
 173, Phelps Dodge Copper Products Corp., Los Angeles, 162,700.
 452, Visalia-Dinuba School of Aeronautics, Visalia, 163,800.
 459, Ryan School of Aeronautics, Hemet, 166,800.
 1103, Joshua Hendy Iron Works, Sunnyvale, 167,900.
 437, Rankin Aeronautical Academy, Tulare, 170,700.
 861, Morton Air Academy, Blythe, 171,100.
 470, Palo Alto Airport, King City, 176,500.
 929, Dow Chemical Co., Los Angeles, 200,100.
 1193, Lockheed Aircraft Corp., Burbank, 209,000.
 993, Rohr Aircraft Corp., Chula Vista, 243,400.
 1424, Kaiser-Hughes, Culver City, 303,700.
 215, Douglas Aircraft Co., Inc., Santa Monica, 336,000.
 1469, Northrop Aircraft, Inc., Hawthorne, 359,100.
 326, Bohn Aluminum & Brass Corp., Gardena, 367,400.
 516, Columbia Steel Co., Pittsburg, 395,200.
 611, Goodyear Synthetic Rubber Co., Los Angeles, 396,900.
 27, North American Aviation, Inc., Inglewood, 446,900.
 226-A4, Aluminum Co. of America, Riverbank, 471,900.

236, Vega Aircraft Corp., Burbank, 656,500.
 697, Douglas Aircraft Co., Inc., Santa Monica, 800,000.
 226-LA, Aluminum Co. of America, Torrance, 903,800.
 20, Consolidated Vultee Aircraft, San Diego, 1,800,500.
 1678, Housing for Eagle Park, Dos Palos.
 1841, Housing for Palo Alto Park, King City.

Colorado

1663, Western Fluorspar Corp., Northgate, 3,500.
 665, Colorado Fuel & Iron Corp., Minnequa, 4,700.
 668, Molybdenum Corp. of America, Empire, 6,900.
 1306, Aircraft Mechanics, Inc., Colorado Springs, 60,000.

Montana

1804, Domestic Manganese & Development Co., Butte, 16,600.
 133, Anaconda Copper Mining Co., Columbus.
 587, Anaconda Copper Mining Co., Columbus.

Nevada

402, Manganese Ore Co., Las Vegas, 69,100.
 201, Basic Magnesium, Inc., Las Vegas (Gabbs), 226,300.
 201, Basic Magnesium, Inc., Las Vegas, (Gabbs), 3,314,400.

New Mexico

1060, Zuni Milling Co., Los Lunas, 8,000.
 265, International Minerals & Chemical Corp., Carlsbad, 53,000.

Oregon

1373, Air Reduction Sales Co. No. 9, Portland, 7,300.
 1501, Krome Corp., Marshfield, 8,800.
 1477, Shofner Iron & Steel Works, Portland, 11,300.
 1034, Radio Specialty Mfg. Co., Portland, 15,000.



• 450 ft. of reinforced brick-lined concrete chimney at the Kalunite, Inc. plant, Salt Lake, where production of alumina from alunite mineral was begun earlier this year.

772, Willamette Iron & Steel Corp. No. 2, Portland, 22,400.
 1350, Iron Fireman Mfg. Co., Portland, 26,000.
 1856, Washington Co., Flax Growers, Cornelius, 27,600.
 1855, Approved Flax Co., Eugene, 33,600.
 (Continued on Page 58)

A NAME TO REMEMBER

When production restrictions are finally lifted, remember the nationally known name of Smoot-Holman. Then as now it will stand first and always for QUALITY in lighting equipment conveniently available throughout the west.



OFFICES IN PRINCIPAL WESTERN CITIES • BRANCH AND WAREHOUSE IN SAN FRANCISCO

DPC PLANTS (Cont'd from Page 57)

1847, Santiam Flax Growers, Jefferson, 53,800.
1617, Columbia Steel Castings Co., Portland, 76,300.
50, Willamette Iron & Steel Corp., Portland, 266,600.
226-O, Aluminum Co. of America, Troutdale, 729,000.

Utah

1353, Blanding Mines Co., Blanding, 6,400.
1752, Pacific Chain & Mfg. Co., Portland, 20,000.
301C, Columbia Steel Co., Salt Lake City (Payson), 14,900.
921, U. S. Vanadium Corp., Salt Lake City, 18,500.
301D, Columbia Steel Co., Salt Lake City (Cedar City), 25,400.
855, Emsco Refractories Co., Lehi, 30,000.
293, Vanadium Corp. of America, Monticello, 47,200.
301B, Columbia Steel Co., Salt Lake City (Columbia Home Canyon), 54,700.
1164A, Utah Oil Refining Co., Salt Lake City, 58,400.
291, Kalumite, Inc., Salt Lake City, 78,200.
636, Eitel-McCullough, Inc., Salt Lake City, 104,000.
687, Columbia Steel Co., Ironton, 513,200.
301A, Columbia Steel Co., Salt Lake City (Geneva), 4,718,900.

Washington

1761, American Zinc Lead & Smelting Co., Metaline Falls, 2,000.
369, Lake Washington Shipyards, Houghton, 3,200.
388, Bonneville Power Administration, Tacoma, 4,600.
602, Wilkeson Products Co., Tacoma, 6,400.
603, Wilkeson Products Co., Wilkeson, 13,500.
305, Bonneville Power Administration, Spokane, 14,000.

1521, Stetson Ross Machine Co., Seattle, 14,700.
1560, Hooker Electrochemical Co., Tacoma, 14,900.
747, Wenatchee Alloys, Inc., Rock Island, 40,800.
1157, Pacific Carbide & Alloys Co., Tacoma, 62,800.
1577, Boeing Aircraft Co., Seattle, 82,500.
34, Lake Washington Shipyards, Houghton, 136,500.
303, Pacific Car & Foundry Co., Renton, 143,800.
245, Olin Corp., Tacoma, 158,100.
571, Electro Metallurgical Co., Spokane, 473,700.
2268, Aluminum Co. of America, Spokane, 939,800.
156, Boeing Aircraft Co., Renton, 1,710,800.
1061, Aluminum Co. of America, Spokane, 2,314,000.
1767, Coplen Park (Housing for Aluminum Park), Spokane.

Wyoming

1437, Polarizing Instrument Co., Cody, 10,000.
1146, Frontier Refining Co., Cheyenne, 47,700.

War Department Properties to be Disposed by Defense Plant Corporation

California

Chemurgic Corporation, Turlock, assembly of incendiary bombs.
Kobe Inc., Huntington Park, gages and hydro-matic equipment for aircraft, 17,850 sq. ft.
National Supply Co., Torrance, gun tube forging, 7,949 sq. ft.
San Bernardino CWS Plant, San Bernardino, Day & Night Flare Corp., loading assembly of incendiary bombs, 77,163 sq. ft.
Yuba Manufacturing Co., Benicia, 155-mm. howitzer, 43,050 sq. ft.

Colorado

Denver Ordnance Plant, Denver; Remington Arms Co., small arms ammunition, 1,729,151 sq. ft.

Utah

Ogden CWS Plant, Ogden, clothing impregnation.
Utah Ordnance Plant, Salt Lake City, Remington Arms Co., small arms ammunition, 1,377,191 sq. ft.

Washington

Pacific Car & Foundry Co., Renton, tank recovery units, 50,619 sq. ft.

Scrap Aluminum Depot Opened

A 40-acre Government scrap aluminum storage depot has been opened at Camp Haan, Riverside, California. Several million pounds of aluminum scrap will be shipped there each month from West Coast aircraft plants. As conditions permit the aluminum will find its way to smelters where it will be melted into ingots and re-used for war production or essential civilian production.

Much of the aluminum to be shipped will be in convenient briquette form. However, heavier pieces such as wings, fins and empennages may be transported intact. The aluminum briquettes weigh about 60 pounds each and are formed by feeding scrap aluminum through a baler which compresses or "briquettes" it hydraulically.



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EFFICIENCY KINKS FROM WESTERN PLANTS

Production short-cuts • Worker's suggestions • Prize-winning awards

THE brake shoe used to stop a Tannet band saw is made of one piece steel. It is a circular ring cut through at one point on its circumference. The diameter of the shoe is increased by widening this gap. Under constant use, the flexing of the metal results in an undue strain being placed at a point about opposite to the slot, and a great deal of time and money has been lost in repairing the recurring breaks in the shoe which resulted from this strain.

Delmar Conde of the mechanical maintenance department, Ryan Aeronautical Co., San Diego, overcame this difficulty by his idea which was to build the shoe in two separate parts. These halves are held together, tightly, by two coiled springs. The same braking action is possible: the ring is expanded by widening the gap, but the strain no longer exists because the two parts of the assembly can move independently of each other.

Although the trend in riveting has been away from hand operation and in the di-

rection of the automatic machine, now and then a hand tool is devised which performs a job in a superior way. Such a tool is this hand riveting squeezer which was designed and built by Chester C. Hough of the experimental department at Ryan.

It is used to rivet thin or inaccessible structures which do not lend themselves to machine riveting. Many thin parts are difficult to rivet satisfactorily by the bucking method. Others are extremely hard to reach with automatic riveters. This tool can be used for most of these jobs. It may be utilized with any type of rivet—flat, round, brazier or countersunk head. In addition to these tasks it can be used for dimpling.

This instrument has a roller cam action and is constructed of hardened steel. It is used primarily in experimental work where it has displayed unusual qualities of endurance and strength.

The "oil can" effect is a troublesome phenomenon which occurs in fabricated metal sheets such as skin surfaces and ribs. The metal surface waves and produces a vibrating element much like the action of the bottom of an oil can.

A. W. Kilmer, of Ryan's sheet metal department, has developed a set of dies which have been very successful in removing this defect. They are set up in a punch press and the parts are fed into the press where the dies dimple them. The dimpling



• Chester C. Hough of Ryan Aeronautical Company demonstrates use of hand riveting squeezer for operations where the machine riveting method is not convenient.

operation takes up the excess metal which is the cause of the "oil canning."

This method has proved to be faster and more effective than any other we have tried. It completely solves the problem by adding rigidity to the metal membrane.

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LABOR

AND THE INDUSTRIAL WEST

THE National War Labor Board, in three recent actions involving West Coast employers, has made it abundantly clear that its policy will be not to disturb arbitrators' awards on wage issues in cases where such awards come before the Board for review, unless wage stabilization principles are violated.

Most recent of these actions, which was hailed by employer members of the Board as "furthering the cause of voluntary arbitration," was the reversal by the National Board of the Tenth Regional Board's decision in the case of the Employing Lithographers Association, San Francisco, and Amalgamated Lithographers of America, Local 17. In this case the Regional Board, with Industry members dissenting, had ordered a \$4 per week increase across the board to all employees involved, after the majority of a three-man Arbitration Board had decided no increase should be awarded.

The lithographers' case, in which the Regional Board's order was issued June 5, 1944, involved a group of 14 San Francisco firms and, in addition, other employers who had stipulated to abide by the ultimate decision.

Industry members, in an opinion written by Wm. B. Tyler, protested the decision at that time. They stated that: "the Industry members feel that the majority of this Board has gone far beyond our jurisdiction in this case and that the decision of this Board has been determined contrary to all proper procedure and unless it is reversed it would be cited in other cases to impair the finality of arbitrators' awards and lessen the prestige of voluntary arbitration as a means of settling labor disputes, and it would be an encouragement to the settling of disputes by means of collective bargaining."

This view was upheld by the National

Board, on review, when it ordered the arbitrators' award of no increase to stand. Labor dissented.

Similar action was taken by the National Board on September 28, 1944, when it vacated a directive order of the Tenth Regional Board in the case of ten retail stores in Richmond, Pittsburg and Martinez, represented by the California Association of Employers. The National Board reinstated the arbitration panel's award of \$3.50 per week increase, retroactive to May 1, 1943, to apprentice and regular clerks in the ten stores and denied the request of the union involved, which was the bargaining agency for the 850 employees affected, for establishment of a special classification of "shoe clerk." The Regional Board had raised the increases awarded by the panel by as much as \$5 a week in most classifications, had fixed the retroactive date as November 1, 1942, and had established the classification of "shoe clerk."

Again, on October 14, 1944, the National Board stressed the importance of upholding arbitrators' awards when, in an opinion on a case involving the Association of Retail Grocers, Bellingham, Wash., it stated that arbitrators would become "rather fatuous rubber stamps" if the Board were to require them to apply a rigid policy in dealing with various wage issues.

The opinion added that "if arbitration

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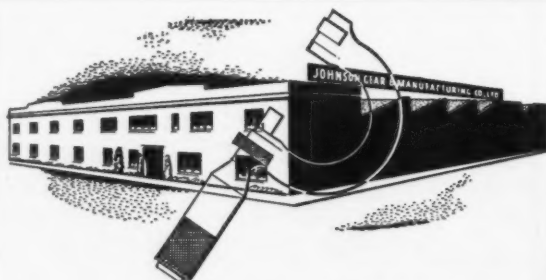
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is to realize its potentialities of usefulness in the settlement of labor disputes . . . there must be scope for the exercise of judgment by the arbitrator and the parties must respect their commitments to abide by his decision unless it is clearly in violation of the national wage policy." The Board then refused to revise the arbitrator's decision award, particularly as to the retroactive date of the adjustment ordered by the arbitrator, which was a later date than would have been chosen had the National Board's policy been applied.

Longshoremen Seek Guaranteed Wage

Longshoremen may be doing the spearheading for the guaranteed annual wage effort being prepared by many unions. The guarantee is one of the proposals put forth by the International Longshoremen's & Warehousemen's Union in the proposed agreement with the Waterfront Employers Association of the Pacific Coast which will come before a special panel of the War Labor Board this month for hearing. The language of the proposal is as follows:

"For the duration of this agreement all registered longshoremen shall be guaranteed a minimum of 36 hours work per week averaged over each regular 4-week period, or a minimum of 144 hours for each such period.

"Every registered longshoreman shall be guaranteed an adjustment in pay to bring his total hours to 144 straight time hours per 4-week period in the event that he has been regularly available for work throughout the period and has not been provided employment for that number of hours.

"The Labor Relations Committee is authorized to adjust the hours requirement and the guarantee for men absent on sick leave with pay during the period."

Bay Area Population

Since the war the San Francisco Bay area has become the most compactly settled section of the country west of the Mississippi, according to the research department of the San Francisco Chamber of Commerce. Having a population of approximately 1,505,535 inhabitants, the average number of persons per square mile is 10,910, compared with 8,325 in 1940. In an area slightly less than one-third of the corporate limits of Los Angeles, more persons are now living than were in Los Angeles in 1940, the report asserts.

Shell Building

Army Engineers' portion of the construction of plants for shell manufacturing facilities at the Kaiser steel mill at Fontana and at the Denver ordnance plant total \$4,000,000 and \$3,000,000. This is in addition to the funds provided by Army Ordnance for the manufacturing facilities themselves.



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to post war
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• Russian engineers recently inspected Grand Coulee for points on rebuilding their own war-destroyed Dnieperostroi Dam. Here they are at Spokane. From left, seated: F. G. Sutherland, mayor of Spokane; N. Shpiakin, hydraulic engineer from Leningrad; I. S. Locke, International General Electric Company, interpreter; Eric Johnston of Spokane, president U. S. Chamber of Commerce; A. R. Kudirsky, electrical engineer, Leningrad; standing is J. F. Gogins, manager of General Electric's Spokane office.

Editor's FIELD BOOK NOTES

TRAVEL getting easier? . . . Pullman porter on the Cascade says "Slacked off a little the last month . . . a few uppers empty on Sunday nights . . . car inspector

on the platform at Portland comments, "haven't been to bed at 11 o'clock for a week . . . last night it was all night, night before until four in the morning, back on the job three hours later; tonight it will be probably another all night session; my shoes and all my clothes were soaked through when I got home this morning for breakfast; the only help we can get is drunks and bums."



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Salesmanship. Those paper-thin crackers in the dining car, with the dark tints in them,—what's so familiar about them? Long cogitation . . . we have it . . . plywood! Tsk tsk! What a sales promotion job the Douglas Fir Plywood Assn. is doing!

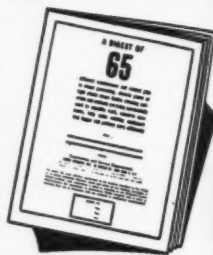
McCarthy. "Sure the boss is cagey about being interviewed. One magazine—writer worked hard on him for a story on his postwar plans, but couldn't quite put it over." This from a public relations man for one of the largest war enterprises on the Coast. "Told us he had been offered \$1,000 by the _____ (name of fraternal organization deleted) Magazine. You know, and I know, that publication never paid \$1,000 for a story in its life. Was the \$1,000 a pipe dream, then? Oh no! That came from _____" (a magazine specializing in briefing articles from other publications). Charlie McCarthys aren't always wooden dummies. Sometimes they are magazines, with other magazines as the Edgar Bergens.

Curiosity. Is that burning sawdust pile near the tracks at Eugene still smoking? Three Cascade passengers would like to know. Looked as though the light hosing it was being given wouldn't choke any self-respecting fire . . . or do sawdust piles burn on and on, like coal piles?

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enterprise heaved a sigh of relief when the latest public ownership measure in the Pacific Northwest was buried at the November election. But some seven years back the manager of an ice company in a good-sized Northwest town was asked why he didn't build up more volume for himself by setting up a showroom for the new type ice refrigerators, as had been done elsewhere. "You don't know this territory," was the caustic reply. "The electric power company controls everything here. They would put me out of business in a minute if I started cutting into the electric refrigerator customers." Perhaps it was just his imagination; perhaps that power company really did believe in the motto, "live and let live"; perhaps it is paying now for not believing in it then. Anyhow, the hopeful thing about it is that business everywhere in this country is learning (albeit the hard way in most cases) that the motto is the cornerstone of every sound private enterprise. Let not government and labor forget that it will be a foundation stone in their success also!

Appreciation. Another thing builds success, too, and that is being interested in the other fellow. We couldn't place him waiting in line outside the dining car door, but he promptly spoke, then apologized for not being able to place us. He reflected for a minute or two, then made a suggestion. "Didn't I wait on you some years ago in such-and-such a Safeway store in San Francisco?" That was the editor's neighborhood Safeway, all right, and with this prompting, the Safeway man's face began to look familiar for the first time. Long since this particular store was closed out, our Safeway friend had gone to Los Angeles and now was being transferred to the Northwest. On his way up? He didn't say so, but we do.

Terminated Contracts Settled in Jig Time

Final settlement on the cancelled portions of contracts involved in the production of the BT-13, Consolidated-Vultee's basic training plans, was completed barely two months after final delivery of all the airplanes and spare parts. This was the first transaction between a manufacturer and the Western Procurement District, Air Technical Service Command.

Termination of the \$15,000,000 cancellation was accomplished by consolidating the numerous contracts involved into a single docket, the contractor absorbing and disposing of all work in process and settling all outstanding claims of subcontractors and vendors. The government accepted from the contractor on a bill of materials basis an inventory consisting of raw materials and purchased parts equivalent to the number of airplanes plus spare parts cancelled. The final negotiated settlement amounted to \$1,200,000.

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In Our Mail Box

Editor, *Western Industry*:

Our mutual friend, Mr. J. D. Zellerbach, has called my attention to the editorial "Industry Needs Financial Watchdogs" in the October number of *Western Industry* and, of course, particularly to the suggestion that the U. S. Chamber of Commerce of NAM should "set up investigating departments to keep everlastingly on the trail of government" in an effort to minimize wastage in government expenditures. Naturally, I agree wholeheartedly with you on the desirability of and necessity for utmost economy in government.

But the Association has taken the position that its function with reference to governmental efficiency is twofold:

1. To call attention to the volume, character, and increases in federal government expenditures; and to
2. Urge the government itself to study the efficiency of its operations and the possibility of effective reorganization.

In the latter field, as evidenced by the Burd Committee work, which was stimulated in part by the Association's stress on the subject, there have been some worthwhile results.

It has been the consensus that as a business organization the NAM should not undertake to say just how the federal government structure should be organized in detail. Certainly NAM can go so far as to say (and I believe it has done so in the past) that no president of the United States, regardless of party or his own inherent ability, can really be efficient when he is charged by Congress with personal direction of hundreds of different activities.

It is accepted as a basic principle in the organization of large industries that no top executive can personally and effectively direct the activities of more than eight other people if he is to function also as the chief operating executive. For the NAM

as a business organization to attempt to determine the structure of the government in detail would itself necessarily be based on absence of pertinent information and might even be considered by some as injecting business into government in a manner quite as objectionable as the intrusion of government into business.

Yours very truly,

WALTER B. WEISENBURGER

Executive Vice-President

National Association of Manufacturers,

* * *

Editor, *Western Industry*:

Mr. Eric Johnston has asked me to reply to your recent letter containing a copy of an editorial on the reorganization of the Federal Government which appeared in *Western Industry*.

In a practical sense, the United States Chamber of Commerce is continuously engaged in such a program. Every effort that is made to bring about a change in law and federal regulation by this organization is intended in part to bring about better government.

The financial aspects of this problem have received close and continuous scrutiny by our Committee on Federal Finance. Wherever and whenever it has been possible to reduce federal expenditures and thereby curb the unnecessary growth of bureaucracy that committee has been largely responsible for the work.

The great impetus given in recent years to the centralization of government in Washington may have reached its peak. At least we are hopeful that at the conclusion of the war the federal establishment can be demobilized as drastically as our armed forces and the war industries.

There are, of course, other responsible groups engaged in the serious work of helping to make government efficient. I refer to such organizations as the National Association of Manufacturers and the Citizens National Committee among others.

We are, of course, pleased to know that you have consistently regarded this organ-

ization as best equipped to do a job which all of us feel can and must be done.

Very truly yours,

HAROLD L. VOLGENAU

Manager Dept. of Governmental Affairs
Chamber of Commerce of the U.S.A.

* * *

Editor's Note: In the October issue appeared an editorial commenting on the excited pre-election efforts of politicians to solve the industrial problems of the West. It said: "... Senator Pepper tours the Coast insisting that Western industrial development will shrivel up if the Republicans win, because hydro-electric plants will revert to private control and freight rates be established that will favor the East."

* * * No candidate for office should be stumped by such small matters as finding markets overnight for our aluminum, magnesium and steel plants, or converting shipyards and aircraft assembly plants into factories that are sold up for two years ahead."

We sent the editorial to Senator Pepper with a letter saying, "When the election is over and you have time to really find some bona fide customers for products turned out by our aluminum plants—Basic Magnesium and Geneva Steel—please let us know. We need all the brains the country can dig up to settle these problems."

Here is the Senator's reply:
"I am pleased to have your letter of the third and the enclosed tear sheet in which you made mention of my visit to the Pacific Coast. I shall certainly keep in mind your suggestion, as I do want to see the development of the great resources of the West."

(*Editor's final note: And all that delicate sarcasm gone with the wind!*)

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Fewer Accidents With Pre-Trained Miners

IF MINERS were given systematic training before they began actual work, it would greatly reduce the number of mine accidents, according to Oscar Dingman, professor of mining engineering, Montana School of Mines. He told the National Safety Council, at its Chicago meeting in October, that apprenticeship should fall into four divisions: pre-production training, on-the-job training, supplemental training, and follow-up.

It is important, said Professor Dingman, that the men be given full miner's pay from the very first day of their training; this appeals to their sense of fair play. "There is little doubt that lack of proper follow-up is the chief reason for the failure and ultimate collapse of many seemingly suitable and easily workable programs attempted underground.

"As an aid and basis for proper follow-up, there should be a system of records of the student's work, personal experience, and progress. Fully one year of the normal training and experience of the average green miner can be condensed and crowded into a three-month training period."

Such a program was begun in the Butte

district of the Anaconda Copper Mining Company in June, 1942, Professor Dingman said, and the "accident rate for the 164 graduates, during the first 10 months of 1943, was slightly less than half the all-time rate for the month of October only."

Safety inspections made by the Bureau of Mines since August, 1942, in mines other than coal in the 11 Western states, resulted in a total of 7,657 written recommendations being made. Carl Belser, engineer with the Mineral Production Security Division, reported to the Council that 1,107 related to health and safety of employees, 4,385 to fire protection, 1,642 to handling and storing of explosives and 982 to the prevention of sabotage or other subversive activities.

Twenty-six definite types of hazard to the health and safety of employees were found, said Mr. Belser, and of these the lack of first-aid training was the most common, being found in 187 mines. Prominent among other causes of accident were inadequate timbering in mine workings, lack of safety organizations, lack of goggles, lack of a second exit, inadequate ventilation, lack of overwind and overspeed

control, lack of mine rescue crews, improper sanitation, dust hazards, lack of protective clothing, etc.

There were 41 different types of fire hazards found and 3,697 examples of these were found in the mines examined. A total of 484 mines lacked fire extinguishers, making this the most common fire hazard. The next most common was the lack of fire drills.

Other causes of fires in mines, were brush and weeds near buildings, the presence of rags and paper, the absence of fire alarms, the lack of fire lines and hydrants, improper installation of heating equipment, transformers, and electric wires, poor housekeeping, lack of water barrels, inadequate supply of fire hose, lack of inspection of fire-fighting equipment, lack of fire doors, lack of restrictions on smoking, improper storage of oil and grease, etc.

At many plants the construction of much needed oil houses, the establishment of mine rescue stations, the removal of old and useless frame buildings, and especially a marked improvement in housekeeping, resulted from recommendations which not only the Bureau of Mines engineer but also the local management thought applicable, Mr. Belser stated. After deducting recommendations which were found to be inapplicable, 80.6 per cent of the remaining recommendations have been placed in effect.



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THE WESTERN OUTLOOK...NEWS...STATISTICS.

THE PICTURE

Aircraft factories have received new contracts carrying them well into the future. These include \$40 million for Ryan and \$25 million for Consolidated-Vultee from the Navy and Douglas \$40 million for Pan-American clippers. Shipyard operations, repair work and related operations continue at full tilt. Spot authorizations for conversion civilian production still mostly on paper due to inability to get manpower. Aluminum and magnesium cutbacks cutting into electric power load. Renewed military demands for lumber. Labor shortage perhaps worst of all in railroads.

Lumber—Another War Rush

The definite low spot in Central Procuring Agency buying, which featured the West Coast lumber situation during September and up to the very end of October, has been ended by an unexpected upturn in military demand. CPA West Coast lumber takings for the two fall months were down to less than 80 million board feet per month, or only about 14 per cent of production, and the industry believed it had finished its job on airplane lumber. Now it has to supply an urgent need for 7 million feet of Sitka spruce and Noble fir aircraft lumber for troop gliders.

There has been a surprise shift on Douglas fir lumber for military truck bodies. This supply

assignment was apparently completed. Now from Detroit comes orders for several million feet more of Douglas fir truck body material. November 1 saw a round half-dozen "must" orders for cargo shipments of lumber from West Coast ports, placed on extremely short notice.

The Signal Corps has discovered a serious shortage of crossarms for essential extensions of telephone lines—and here again several million feet of a specialized grade of Douglas fir lumber is an almost immediate demand. Another program, one previously unheard of within the industry, projects a prodigious number of prefabricated warehouses which will be shipped knocked down for urgent if temporary needs.

Cumulative figures for 43 weeks in 1944 and previous years in thousands of board feet reported by the West Coast Lumbermen's Association are as follows:

	1942	1943	1944
Production	7,298,159	6,330,951	6,627,908
Orders	8,658,842	6,990,602	6,987,803
Shipments	7,935,360	6,705,708	6,653,736

Western Pine Association figures covering Idaho White pine, Ponderosa pine, Sugar pine and associated species for the current year to October 28 are as follows:

	1943	1944
Orders	3,730,452	3,632,351
Shipments	3,775,450	3,569,056
Production	3,477,163	3,434,678

Ships—Coast Yards Zoom

As forecast last month, October output from Maritime Commission yards on the Pacific Coast made an even greater jump from the September volume than September did over August. There was a full gain of 10 launchings and keel lay-

ings in October over September and seven deliveries. October keel layings totalled 56, the same figure as for launchings, while deliveries were 51, plus one wooden barge of 3900 tons. The deadweight tonnage delivered, however, showed a slight drop.

	Launchings Ships	Deliveries Ships	Thousands of Deadwt. tons
January 1944	76	67	633
February	59	59	583
March	61	73	679
April	66	64	641
May	60	72	693
June	50	55	516
July	58	38	399
August	41	32	295
September	46	44	407
October	56	51	401

(Includes destroyer escorts and small aircraft carriers, but not larger naval vessels built by the navy itself. Also includes concrete barges, but not tug or wooden barges. Tonnage figures from September on are adjusted, previous months unadjusted. Deadweight tons are used as a rough measure of the cargo carrying capacity of the ship. All figures from U. S. Maritime Commission statistical department.)

Iron—Trend Downward

September shipments of iron ore from Utah and California mines to the mills were down from August, particularly the latter, but Wyoming tonnage went upward slightly; not enough, however, to bring the tri-state September total up even with the preceding month. Figures in gross tons are:

	Utah	Wyoming	Calif.	Total
March	133,901	86,291	54,104	274,296
April	123,417	63,081	49,078	235,576
May	134,733	70,535	54,477	259,745
June	93,699	64,632	63,055	221,386
July	126,514	47,962	60,908	235,384
August	134,742	35,721	52,426	222,889
September	129,386	47,119	32,596	209,101

War Production Contracts—New Aircraft Orders

In Thousands of Dollars—Source: War Production Board Statistical Division

NOTE: The monthly award figures shown below represent only an approximation of the actual contracts, because cut-backs and cancellations are usually on previous awards, although reported in the current month. Also there is considerable lag in the reporting of individual contracts. However, WESTERN INDUSTRY is reporting the monthly awards by the successive subtraction method as an approximation.

	MONTANA All Other	IDAHO Ships	WYOMING All Other	COLORADO Aircraft	N. MEX. Ships	ARIZONA Aircraft	UTAH Aircraft	NEVADA Ships
January	...	370	1,380	...	125,636	824	...	...
February	1,384	...	7,858	...	...	...	...	...
March	34	...	602	98	3,069	573	9,396	...
April	...	...	13,000	...	...	...	...	...
May	...	121	...	250	6,022	161	300	...
June	...	...	12,833	...	230	3,946	10,300	...
July	2,114	...	10,558	63	1,855	3,463	600	...
August	4,282	75	5,998	...	305,077	2,743	209	...
Total from June 1940	13,639	646	4,873	1,776	3,600	91,943	59,304	387

	WASHINGTON Aircraft	OREGON Ships	CALIFORNIA Aircraft	TOTAL Ships
January	...	1,549	23,783	...
February	...	84,257	74,558	...
March	...	226,602	16,553	...
April	490,765	40,671	9,235	...
May	...	12,082	6,785	...
June	...	153,182	22,865	...
July	145,057	158,458	21,849	...
August	714,598	13,227	119,172	...
Total from June 1940	1,803,148	2,081,349	218,878	1,033

	IDAHO Ships	WYOMING All Other	COLORADO Aircraft	N. MEX. Ships	ARIZONA Aircraft	UTAH Aircraft	NEVADA Ships
January	...	370	1,380	...	125,636	824	...
February	...	7,858	...	...	...	...	...
March	...	602	98	3,069	573	9,396	...
April	...	13,000	...	...	...	...	...
May	121	...	250	6,022	161	300	...
June	...	12,833	...	230	3,946	10,300	...
July	...	10,558	63	1,855	3,463	600	...
August	75	5,998	...	305,077	2,743	209	...
Total from June 1940	646	4,873	1,776	3,600	91,943	59,304	387

Electric Energy—Light Metals Cutbacks Cause Drop

Production of Electric Energy for Public Use—In thousands of Kilowatt Hours—Source: Federal Power Commission

	Montana	Idaho	Wyoming	Colorado	New Mexico	Arizona	Utah	Nevada	Total Mtn.	Washington	Oregon	California	Total Pac.
May	205,005	122,700	26,558	81,677	38,266	265,685	47,694	269,325	1,053,010	698,471	399,404	1,239,465	2,327,400
June	201,687	115,247	29,316	78,842	38,428	280,268	45,862	273,148	1,067,798	697,763	370,026	1,272,391	2,346,100
July	217,075	123,272	34,675	85,943	40,758	322,526	49,869	274,703	1,147,861	704,949	392,453	1,265,434	2,462,836
August	235,592	128,753	35,135	87,053	43,856	355,780	55,787	280,111	1,124,696	701,848	419,192	1,419,201	2,540,241
September	225,227	117,165	23,928	89,863	41,255	276,091	46,832	260,991	1,081,352	780,776	408,871	1,362,769	2,552,418
October	244,686	110,958	30,973	93,091	40,270	300,702	50,762	284,437	1,145,877	831,305	430,335	1,317,501	2,579,140
November	234,174	105,282	20,338	94,670	38,336	279,389	52,025	299,159	1,123,373	860,165	419,929	1,377,015	2,557,100
December	230,276	106,406	20,951	97,429	41,999	294,909	60,995	320,207	1,173,172	860,810	398,186	1,305,850	2,664,940
January, 1944	232,286	94,852	19,417	96,960	42,346	290,005	57,904	331,055	1,155,925	964,314	406,851	1,281,484	2,652,940
February	202,057	84,639	18,023	87,611	37,891	291,969	50,490	314,546	1,087,226	928,632	376,321	1,300,331	2,595,388
March	212,801	104,566	18,822	89,928	40,994	288,847	46,275	324,633	1,124,866	943,429	402,195	1,322,532	2,668,150
April	189,958	122,178	18,793	85,954	42,287	284,140	33,462	262,097	1,039,849	890,599	370,914	1,372,445	2,635,968
May	190,926	112,473	19,454	87,365	41,077	297,189	39,291	284,604	1,071,379	854,064	417,654	1,397,484	2,689,527
June	191,704	104,360	22,250	84,548	42,172	285,599	38,255	271,433	1,071,520	864,031	417,654	1,401,465	2,689,527
July	217,474	127,101	24,459	87,399	44,306	331,454	24,390	256,538	1,115,121	779,929	438,373	1,521,569	2,739,871
August	220,673	128,274	30,999	91,641	47,468	357,053	25,137	272,598	1,173,843	781,757	466,110	1,451,720	2,699,587
September	192,741	110,053	22,782	88,684	43,005	343,892	24,514	229,952	1,055,623	780,311	386,443	1,304,873	2,471,627

FROM THE RESEARCH DIVISION OF WESTERN INDUSTRY

Employment—Fewer People, More Manhours

Estimated Number of Employees in Non-Agricultural Establishments—In Thousands—Source: U. S. Bureau of Labor Statistics

ALL INDUSTRY DIVISIONS											
	Montana	Idaho	Wyoming	Colorado	New Mexico	Arizona	Utah	Nevada	Total Mountain	Washington	Oregon
January, 1944	110	95.0	60.6	265	76.4	108.4	150	40.4	906	644	334
February	109	94.1	60.8	265	76.8	108.6	147	40.0	901	638	333
March	110	95.5	59.4	259	76.4	108.2	142	39.9	889	636	332
April	110	94.7	59.9	259	77.5	108.7	145	40.6	895	633	330
May	110	95.6	61.8	262	78.2	107.9	145	41.5	902	632	331
June	111	95.6	63.3	264	79.1	107.6	144	41.4	906	637	337
										California	Total Pacific
										2,635	3,613
										2,629	3,600
										2,605	3,573
										2,614	3,577
										2,590	3,553
										2,581	3,555

MANUFACTURING											
	Montana	Idaho	Wyoming	Colorado	New Mexico	Arizona	Utah	Nevada	Total Mountain	Washington	Oregon
January, 1944	13.9	12.8	3.7	53.7	4.8	15.9	22.4	4.6	132	267	139.1
February	13.8	12.6	3.8	53.5	4.8	15.4	20.8	4.5	129	264	136.6
March	13.7	13.0	4.0	47.9	4.8	15.7	18.8	4.2	122	262	134.9
April	13.4	13.2	4.2	46.4	4.9	16.4	21.1	3.8	123	255	131.2
May	13.3	14.2	4.1	47.2	4.8	16.3	21.8	3.4	125	255	132.5
June	13.3	15.0	4.4	48.0	5.0	17.0	23.1	3.2	129	259	136.4
										California	Total Pacific
										1,016	1,422
										1,008	1,409
										987	1,384
										979	1,367
										954	1,342
										934	1,329

Every major manufacturing industry division in California except paper and allied products lost workers between August and September, reports the California Division of Labor Statistics. The California factory force of 820,800 wage earners in September was down 22,100 from the preceding month and was 147,100 below the all-time high of August 1943. The loss of 19,600 production members in durable goods industries between August and September was the largest month-to-month contraction in this group since the start of the continuous downward employment spiral last December, and was off 143,800, or 20 per cent, from the August 1943 peak.

Shipyards (excluding government yards) employed 228,700 production workers in September, a decrease of 2,000 from the preceding month. This loss was offset by an increase in average working time from 45.6 to 47.1 hours per week so that total manhours worked in September exceeded August.

In the Los Angeles industrial area, employment in shipbuilding (excluding government yards) and aircraft plants dropped to 209,900 wage earners in September compared with 219,200 in August and 284,900 at the August 1943 peak. An increase in the average working time in shipyards from 46.1 hours in August to 49.3 hours in September offset the drop in employment so that total working time increased. Loss of wage earners from the chemicals, petroleum and rubber products industries was primarily responsible for the decrease in the factory force of nondurable goods industries to 92,300 in September from 94,000 in August.

Breaking the downward spiral which started last December, the number of wage earners in Bay area shipyards (excluding government yards) and miscellaneous transportation equipment plants remained unchanged at 146,300 from August to September. The current level is 40,200, or 22 per cent, below a year ago.

EMPLOYMENT—DURABLE GOODS INDUSTRIES (Figures from Calif. Div. of Labor Statistics)

	San Francisco Bay Area	Los Angeles Indus'l Area	Total State
Jan. 1944	221,200	369,200	698,800
February	218,600	363,600	689,600
March	212,100	354,700	670,900
April	205,000	347,900	652,700
May	202,200	339,400	645,100
June	196,700	325,500	625,400
July	192,000	320,900	616,700
August	189,200	315,700	605,400
September	188,500	301,400	585,800

Oil—Stocks Build Up

Pacific Coast territory petroleum supply increased 17,000 barrels daily in September, as reported by the Bureau of Mines, while deliveries increased 19,000 barrels daily. The total supply of 965,000 barrels daily exceeded the

total deliveries of 902,000 barrels daily by 63,000 barrels daily, which was the amount added to storage. Stocks of each of the principal products increased, the larger increases occurring in fuel oil stocks (39,800 barrels daily) and crude oil (18,300 barrels daily). Fuel oil supply increased 47,000 barrels daily during September while deliveries increased 33,000 barrels daily.

Total demand (domestic demand is not available for publication) for all products for the eight months of 1943 and the first nine months of 1944, is shown below.

	All Products (Bbls.)	1943	1944
May	852,000	900,000	
June	973,000	969,000	
July	918,000	884,000	
August	983,000	883,000	
September	992,000	902,000	
October	987,000		
November	962,000		
December	1,022,000		
Jan.-Sept. Average	888,000	946,000	

Cement—Decline Continues

Cement production figures reported by the Bureau of Mines (in thousands of barrels) are as follows:

	California	Oregon-Wash.	Utah-Idaho
1943	1944	1943	1944
Feb.	1,561	1,000	446
March	1,740	1,231	446
April	1,680	1,317	417
May	1,701	1,260	501
June	1,597	1,108	474
July	1,482	1,312	461
August	1,489	1,188	471
Year to date	13,134	9,468	3,412
			3,066
			2,702
			1,576

Aircraft—Heavier Planes

Figures from the Western Procurement District, Air Technical Service Command, are as follows:

	No. of Planes	Total Pounds
January, 1944	2,559	31,892,000
February	2,569	32,469,000
March	2,703	36,015,200
April	2,295	30,993,000
May	2,569	34,234,000
June	2,276	32,284,500
July	1,890	26,909,100
August	1,930	26,391,000
September	1,802	26,293,000
October	1,609	21,960,000

Figures beginning July, 1944 are for planes reported complete after modification, instead of on leaving factory, as previously.

Copper—Moderate Decrease

Copper production (in terms of recoverable metal) from domestic mines (including Alaska) was 74,147 short tons in September, a decrease of 3,004 tons (4 per cent) from that in August, according to preliminary estimates of the Bureau

of Mines. Production of the combined Western States showed a net decrease of 2,837 tons (4 per cent) from August. Output of recoverable copper from each of the three largest copper producing states, namely Arizona, Utah, and Montana, was about 1,200 tons less. A shortage of labor at the mines and mills continued to be the largest single factor contributing to the decrease. The drop in the copper output from Montana in September was also partly due to a greater quantity of old tailings treated in place of ore by the Anaconda Copper Mining Co. The production from California, Nevada, and New Mexico showed slight gains over the previous month.

Production figures from the Western states, in short tons, are as follows:

	Ariz.	Mont.	Utah	Tot. Western, including other states
Jan.-March	102,224	35,421	79,046	255,624
April	33,967	10,683	24,545	82,822
May	33,832	10,668	24,979	82,108
June	31,369	8,969	23,421	77,964
July	28,067	8,130	22,000	77,964
Sept. (prelim.)	25,500	8,100	22,250	68,711

Freight—Slightly Down

October freight movement figures for railroads in the West showed slight declines from September, probably due to the slowing down of agricultural shipments at the end of the season.

Total traffic figures for the railroads in the Far West are as follows:

	Loadings	Received from eastern connections	Total
March	421,188	320,763	741,951
April	489,777	336,101	825,878
May	505,610	333,480	839,090
June	559,037	333,709	892,746
July	746,085	418,866	1,164,951
August	709,486	404,070	1,113,556
September	755,486	450,180	1,205,666
October	683,850	421,898	1,105,728

THE TREND

As reported elsewhere, spot authorizations for reconversion are still largely on paper, due to inability of applicants to get manpower or materials, and the sudden renewed demand on the lumber industry for military supplies has narrowed the possibility of much lumber becoming available. Nevertheless there is considerable exploration going on regarding possibilities in light metals. The Navy is coming more out in the open regarding its postwar plans, pointing out that the postwar establishment in the Pacific will be a big one, requiring much from civilian manufacturing concerns.



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THE WEST ON ITS WAY

CALIFORNIA

NAVY CONTRACT—Consolidated Vultee Aircraft Corporation announces receipt of \$25,000,000 contract for construction of four-engine Navy Liberator bombers to start in May 1945 when present orders are completed.

PURCHASE—Diamond Alkali Co., Pittsburg, has purchased the Emeryville Chemical Co., 405 Montgomery Street, San Francisco. Manufacture of silicate compounds will be continued at the plant which is located at 1269 Sixty-sixth Street, Emeryville, Calif.

PURCHASE OF PLANT—The Joshua Hendy Iron Works has announced plans to buy the U. S. Maritime Commission building and equipment at the Sunnyvale plant and the Crocker-Wheeler division, Ampere, N.J. The amount involved is a mortgage for \$3,710,000 and purchase price is stated to be several times the amount of the mortgage.

CONTRACT AWARD—Joshua Hendy Iron Works has received an order for 30 large turbo-generator units from the Soviet Union, necessitating the employment of more technical and mechanical workers.

TRUCK BUILDING AUTHORIZATION—DeMartini Motor Truck Co. and MacDonald Truck & Mfg. Co. of San Francisco, and Peterbilt Motors Co. of Oakland are one of 27 concerns authorized by WPB to build light-heavy and heavy trucks for commercial use during the first half of 1945.

EXPANSION—A \$20,000,000 expansion program of the naval magazine at Port Chicago is well under way for completion early next spring, the Navy announces. Included in the program is a \$15,000,000 authorization for an "inland storage area" and a \$5,000,000 authorization for construction and improvement of facilities at the old naval magazine loading piers and naval barracks.

WHOLESALE MARKET PROJECT—A completely modern plant is included in the postwar plans of the San Francisco Wholesale Produce Terminal Corporation for San Francisco, replacing the present establishments with an arrangement of two buildings 940 feet long, surrounding a large court allowing ample room for traffic and parking and providing spur tracks for direct loading into the stores.

CONTRACT AWARD—Douglas Aircraft Co., Inc., has received order from Pan American Airways for fleet of 26 giant DC-7 Douglas Clippers at a cost of \$40,000,000, to be built at Douglas' Long Beach plant.

NAVY CONTRACT—An additional \$40,000,000 contract has been awarded by the Navy to Ryan Aeronautical Company for construction of hundreds of warplanes, assuring peak operation of their San Diego factory well into 1946. The Ryan plane is already in production and is expected to play an important part in the months ahead in the Navy's stepped-up air war against Japan.

NAVAL HOLDING AND RECONSIGNMENT DEPOT—Twaits, Morrison, Knudsen & Gerwick, Stockton, have been awarded Navy contract for \$10,395,189 to develop Rough and Ready Island in the San Joaquin River into a permanent postwar naval holding and reconsignment depot. The contract calls for the completion of six wooden and four steel storehouses, and an additional 18 steel storehouses are to be built. Other work includes 22 miles of railroad track; 11 miles of paved roads; dredging the channel to 30 feet; 3,000 linear feet of wharfage, and a labor camp with galley and mess hall for 1,000 men.

ACQUISITION OF PROPERTY—Dynamic Air Engr., Inc., 1619 So. Alameda, has increased its production space by 25,000 sq. ft. by acquisition of property at this address. Company retains manufacturing area at 843 San Julian Street.

WAREHOUSE ERECTED—Goodyear Tire & Rubber Co., 6701 South Central Avenue, has erected a warehouse for synthetic rubber which will contain approximately 10,000 sq. ft.

NEW OFFICE BUILDING—Aircraft Engineering, Inc., 335 North Foothill Rd., Beverly Hills, is erecting a 6,900 sq. ft. building to be used for offices.

NEW WAREHOUSE—Aircraft Parts of Santa Monica, formerly Aircraft, Inc., 1649 18th Street, will erect a warehouse containing 3,000 sq. ft.

PLANT ACQUIRED—Metropolitan Furniture Manufacturing Company of San Francisco has acquired a site at 1011 Santee Street, Los Angeles, to begin production of upholstered furniture.

NEW BUILDING—Allied Canning Company, 4132 Whiteside Ave., Los Angeles, is erecting a 16,000 sq. ft. building in which sauerkraut and tomato paste will be made.

PROPERTY ACQUIRED—Pioneer Plastics Products Company, 213th Street near Torrance Blvd., in Torrance, has acquired property at same address where plastic flooring, skating rink surfacing, sewer pipes, garden furniture, railroad ties, caskets, and other items will be made.

MILL ADDITION—California Cold Rolled Steel Corporation, 7140 Anaheim-Telegraph Rd., Los Angeles, has added three new strip mills enabling manufacture of strip steel from 3/8 in. to 16 in. wide.

RADAR BUILDING—Northrop Aircraft, Inc., 1001 East Broadway, Hawthorne, is erecting a radar building to contain 3,600 sq. ft., and has acquired a 25,000 sq. ft. building at 2121 South Main Street.

WPB CONTRACT—Poulsen & Nardon Company, Los Angeles, was given a \$600,000 contract by the War Production Board for component: for heavy howitzer ammunition.

CONTRACT AWARD—Norris Stamping & Mfg. Co., Los Angeles, was awarded contract by War Production Board for manufacture of heavy ammunition and boxes in the amount of \$6,925,000.

FUEL TANKS—The War Production Board has given the Gillespie Furniture, Los Angeles, order amounting to \$4,925,000 for plywood fuel tanks.

PEANUTS—Reliable Nut Company, Los Angeles, has received contract for \$1,613,955.91 to supply overseas troops with salted peanuts in cans and P-nut caramel candy from the WPB.

GASOLINE REFINERY AND CYCLING PLANT—The Fluor Corporation, 2500 Atlantic Blvd., Los Angeles, H. M. Anderson, project engineer, is constructing a gasoline refinery and cycling plant at the South Coles Levee oil field near Bakersfield for the Ohio Oil Company, 437 S. Hill St., Los Angeles. The project includes power plants, a distillation area, a production area and other facilities necessary for complete refinery.

"T" LOANS

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If your business has war contracts, you should make arrangements NOW for a "T" (Termination) Loan.

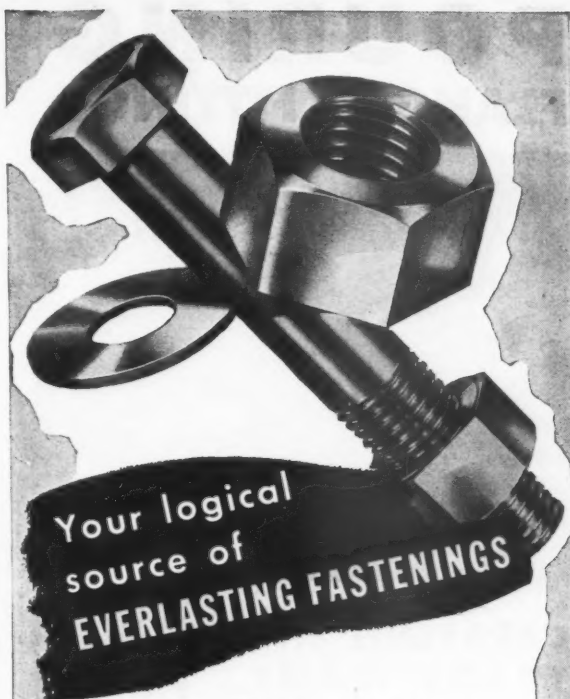
Under the new T-loan, now available for the first time, you can borrow against cancelled war contracts. As your contracts are cancelled, you can obtain, without delay, the major portion of your funds that would otherwise be frozen until your claim under the contract is settled.

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FITTINGS SOLD THROUGH DEALERS ONLY

THE WEST ON ITS WAY

BUILDINGS ERECTED—Aerojet Engineering Company, 285 West Colorado Blvd., Pasadena, will erect buildings at its Azusa plant to contain 40,000 sq. ft., 80 per cent of which will be used for production and the remainder for experimental work on propulsion devices.

HOSPITAL ADDITION—J. E. Haddock, Ltd., 3538 E. Foothill Blvd., Pasadena, was awarded contract for \$625,300 for the construction of a seven and part eight-story addition to the Queen of the Angels Hospital, 2301 Bellevue Ave., Los Angeles.

NAVY CONTRACT—The Navy has awarded contract to Twaits-Morrison-Knudsen, Ben C. Gerwick, Inc., 391 Sutter St., San Francisco, for \$1,377,000 to construct administrative and operational buildings at the Naval Supply Depot on Rough and Ready Island near Stockton.

ISOLATION WARD ADDITION—Continental Contracting Co., P.O. Box 64, Ft. Dodge, Iowa, received contract from the Federal Works Agency for \$149,850 to construct a 40-bed isolation ward addition at the San Bernardino County Hospital, San Bernardino.

POST WAR PLANS—A shop and laboratory building and music and classroom buildings estimated to cost \$958,300 are contemplated for postwar construction at San Jose State College, San Jose.

WIND TUNNEL AND AERONAUTICAL LABORATORY BLDG.—Austin Co., 4205 Pacific Highway, San Diego, has been awarded contract and has started work on the construction of a wind tunnel and aeronautical laboratory building on a three-acre site adjoining the Lindberg Field runway, San Diego, for the Consolidated Vultee Aircraft Corp., 3302 Pacific Highway, San Diego. The laboratory building in connection with the tunnel will be a reinforced concrete structure, 100x160 feet in area, and will house an air flow laboratory for testing air ducts, a complete model shop, and offices for the engineering staff; total estimated cost, \$524,000.

SALE OF SHIPYARD—The Superior Oil Company have sold the Ackerman Boat Company property, one of the largest shipyards in the Newport harbor district, for \$225,000 to Consolidated Steel Company. The property, on a channel south of Lido Isle, is 22 acres in size.

COOLING TOWER—Exchange Orange Products have received a per-

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mit to erect a cooling tower at a cost of \$6,000 which will be the start of a \$60,000 addition to the plant at 616 E. Grove Street, Ontario. The \$60,000 addition will be known as the molasses plant.

POSTWAR STEAMSHIP PLANS—A Henry J. Kaiser program calls for the purchase of four C-3 type freighters, estimated at \$2,500,000 each, based on prewar construction prices. The construction subsidy of 50 per cent would reduce this total of \$10,000,000 to \$5,000,000. Part of the \$2,500,000 capital would be used to make the 25 per cent payment as required under the Shipping Act. The balance of the funds would be used as working capital. The Kaiser program also includes an application for two Liberty ships for conversion into bulk cement carriers, replacing two ships now operated by the Permanente Steamship Company which is owned by the Kaiser interests.

HANGAR—Peter Kiewit, Al Johnson and Hubert Averist, 604 Mission St., San Francisco, were awarded contract for construction of a hangar at the Fairfield-Suisun Army Airport, Solano County, at a cost of \$174,796.52.

MILL—An all-electric mill with a capacity of 65,000 feet in eight hours is a postwar project scheduled for Arcata by the Ogletree Lumber Company of Livingston, Texas, who has purchased for the project and will begin construction of a saw mill in the near future.

POSTWAR PROJECTS—Kern County presented to a State Senate subcommittee its postwar projects amounting to \$10,000,000 for county-wide improvements and for local projects.

COLORADO

REOPENING OF PLANT—The U. S. Vanadium Corporation of New York City announces the reopening of its Durango, Colo., 75-ton vanadium plant after suspending production last February 29.

IDAHO

APPROVAL—The War Department has approved \$1,519,000 program including construction of hangars, warmup pads, service aprons and storage buildings, and conversion of part of existing warehouse, in Boise.

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Photo taken in plant of west coast manufacturer, showing Acme Silverstitcher closing bags of poisonous chemicals to prevent danger of seepage.

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Acme Silverstitchers form, drive and firmly clinch strong, steel staples through all types of bag and carton materials in one simple operation. They have surprisingly low initial cost, and maintenance costs are negligible. Unskilled labor can be taught quickly to stitch rapidly and efficiently.

Heavy duty construction . . . reversible vital parts . . . anti-friction bearings . . . the ability to handle two gauges of wire without adjustment . . . are some of the advantages which Acme Silverstitchers offer.

The field of light assembly work also is one where Silverstitchers are saving time and money. Find out how Acme Silverstitchers provide the low-cost method for closing bags, cartons, and do other special stitching jobs.

ACME *SilverStitchers*
There is a size and model for every need.

The wire to use!

Acme Silverstitch stapling wire has proved its worth on every stitching job . . . on all types of stitching machines. It is true to size and temper, is rust-resistant, and it has a bright, shiny appearance. It does not tangle, and makes strong, securely clinched stitches which stay tight for the life of the carton. Available in 10-pound continuous length economy coils. For faster, low-cost carton stitching, use Silverstitch stapling wire.



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THE WEST ON ITS WAY

EXPANSION—The Olson Mfg. Co. announces postwar plans for the manufacture of metal bodies for trucks and trailers. Present facilities at Olson City will be enlarged to take care of development of standard models for various lines of merchandise.

OREGON

PURCHASE OF PROPERTY—R. M. Wade & Co., 106 S.E. Hawthorne Blvd., Portland, have purchased an industrial tract with track facilities bounded by N.W. 19th Avenue and Thurman and Upshur streets, Portland. This will be the site of a building to house the company's Ford tractor distributing activities now consolidated with R. M. Wade & Co.

CONSTRUCTION OF CARGO LIGHTERS—The Navy has awarded contract to Gunderson Brothers Engineering Corp., Portland, to construct ten "YF" covered cargo lighters. The vessels will be built at Gunderson's Front Avenue plant.

PLANT REMODELING—The Shefford Cheese Co., Inc., a Standard Brands subsidiary, has announced plans for establishing a plant in Portland. A section of the old Knight Packing Co. plant has been leased and will be remodeled.

ARMY CONTRACT—Baker War Industries, Baker, has received an Army contract to recondition 2,000 quarter-ton and one-ton cargo trailers used in training camps for combat use.

EXPANSION—Southern Hardwood Co., Los Angeles, has expanded its organization with the opening of a warehouse and offices in Portland, present headquarters being located at 2515 S.W. Hoffman.

CONTRACT AWARD—Halvorson Construction Co. and E. V. Halvorson, Portland, were awarded \$348,780 contract for construction of 115 family units at Pasco.



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Mills—Trenton, N. J., established 1870.

ALUMINA PLANT—An official of the Aluminum Company of America (Alcoa) has indicated that his firm might build a Columbia River plant to reduce bauxite to alumina to supply its aluminum plant at Vancouver.

UTAH

REA POSTWAR PLANS—A three-year program for postwar rural electrification which has been drawn up by the rural electrification administration provides for investments in Utah totaling \$1,550,000 to bring electric service to 2500 rural consumers. Of this total, \$750,000 would be invested in new distribution lines and \$800,000 in related facilities, including construction of new generation facilities and home electric installations. It would entail 400 man-years of labor, or keep 400 men employed for one year.

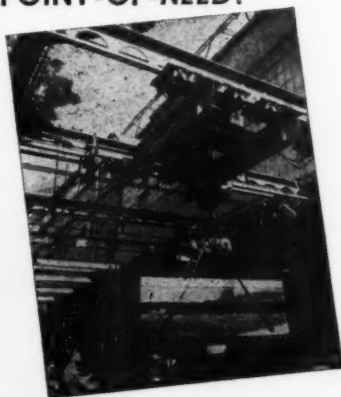
WASHINGTON

NURSES' TRAINING HOME—A contract award of \$69,212 was approved to Roy L. Bair & Co., Spokane, for constructing a nurses' training home at the St. Luke's Hospital in Spokane.

CONTRACT AWARD—The Colonial Construction Co., Spokane, has been awarded contract by the Northwest Magnesite Company at Chewelah for the waste capping removal from its Keystone magnesite deposit.

APPROPRIATIONS—Navy approval of two appropriations aggregating nearly \$200,000 for facilities in Seattle was granted for alterations and equipment at the Frye Hotel to provide housing and mess facilities for 700 officers of the APA School, Seattle Naval Station and for construction of barracks for hospital corpsmen at Seattle Naval Hospital. Also approved was \$25,000 for accessory construction at the Pasco Naval Air Station radio training building.

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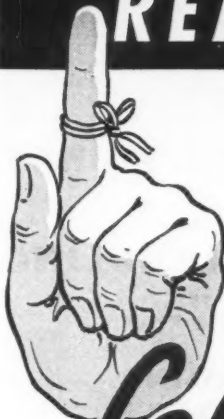
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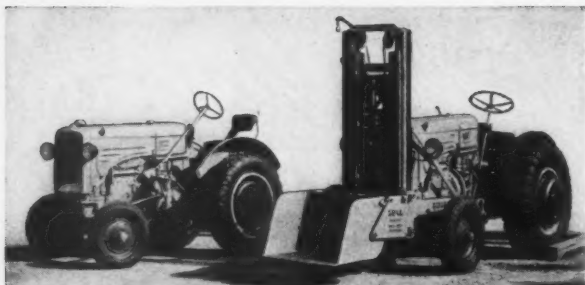
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THE WEST ON ITS WAY

PLANT MODERNIZATION—Crown Zellerbach has modernized its plant at Port Townsend where the burning of recovered lignin in the kraft operation furnaces will reduce fuel oil consumption.

PLANT—Perry Brothers of Seattle have purchased a site north of the city for a plant for dressing, chilling and shipping poultry. The new building will be 90x60 ft. and is on the east side of the 99 highway just north of the Standard Oil plant.

AVIATION FACILITIES—Navy award \$188,315 contract to Nettleton & Baldwin, Seattle, for construction of additional aviation facilities at naval auxiliary air station, Quillayute.

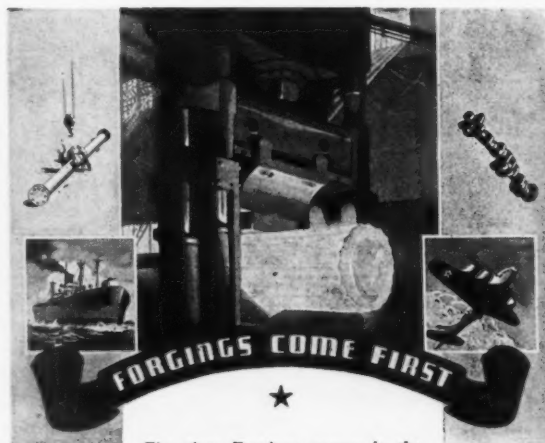
STEEL TUGS—The Winslow Marine Railway & Shipbuilding Co., Winslow, awarded contract of \$1,000,000 by the U. S. Maritime Commission, Washington, D.C., for construction of 12 steel tugs for Navy use.

WOODEN BARGES—Sagstad Shipyard's La Conner plant has received an additional contract for six self-propelled barges and will build a total of 12 of these vessels costing \$1,200,000. The wooden barges are 88 feet in length and are building for the Army Transportation Corps.

ZINC PLANT—It is reported that the American Smelting & Refining Company have been making surveys at their Tacoma plant preparatory to adding a zinc treating department.

CHILD CARE CENTER—A contract was awarded tentatively, pending action by the federal works agency office in Seattle, to William Gorseger, Port Angeles, by the Port Townsend school board for construction of a three-room child care center at Port Townsend. The center will be about 80x60 feet, of brick construction and will have classrooms, dormitory room, teachers' room and the present heating plant.

DWELLING UNITS—A contract award of \$384,900 was given to Nettleton & Baldwin, 1109 N. 36th St., Seattle, for construction of 130 dwelling units and a community building in the East Magnolia area.



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3 stars for the
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The place Forgings assume in the transition of steel to the useful weapons of war demands exacting production schedules. That we have upheld and even bettered these requirements is a source of gratification to all of us. The recognition of the Armed Forces in the form of Production Awards is an achievement of which we are all very proud. This "Know How" dating back prior to the last World War will, when the victory is won, again be a valuable contribution to the postwar period.



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Electrical Products Corp., metal neon signs.
Perfection Bedding Company, innerspring mattresses.

Salem

Thomas E. Cole, wire rakes.

San Francisco

Steeform Contracting Company, steel forms for concrete construction.
Bankers Utility Co., Inc., coin banks.
Lamson Corporation, pneumatic tube systems.
Chandelier Company, portable lamps.
W. R. Ames Company, portable distribution equipment.
Peerlight Mfg. & Supply Co., portable lamps.
Justin M. Jacobs, electrical conduit and fittings.
C. O. Brose, water well casing.
Simmons Company, metal beds, bed springs, etc.
Sterling Bedding Co., innerspring mattresses and box springs.
Specialty Mfg. Co., box springs.
Atlas Metal Spinning Co., metal funnels, scoops, etc.
Pico Battery Mfg. Co., automotive storage batteries.
Form-Fit Mattress Co., box springs.
San Francisco Screw Products Co., automatic cream separators.
Adams Specialty Co., shower drains.
D. N. & E. Walter & Co., metal venetian blinds.

Other Northern California

Oakland—Northwestern Venetian Blind Sup. Co., venetian blind slats.
" S. T. Johnson Co., domestic oil burners.
" B. P. John Furniture, dual sleeping equipment.
" Pacific Engineering Co., milking machines.
" Garden Supply Co., dust pans.

ROPE TRICK

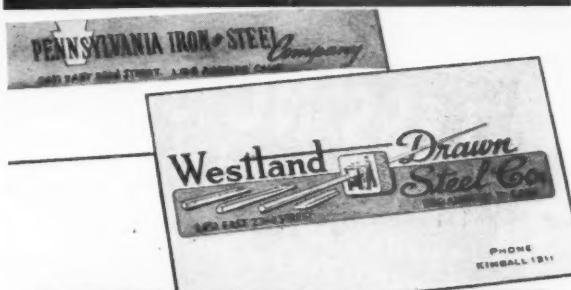
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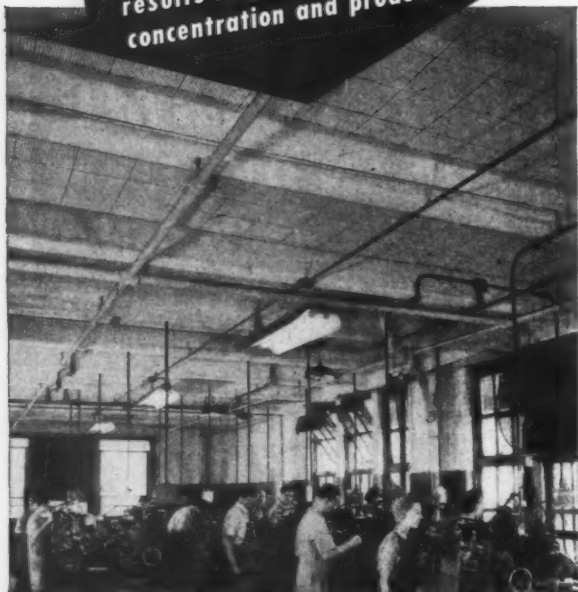
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in factory and shop
results in greater alertness,
concentration and production



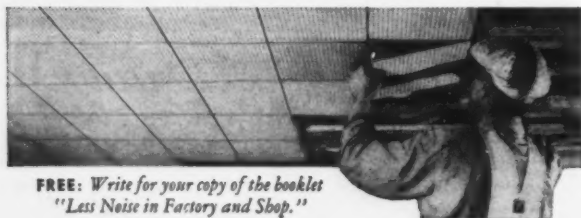
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" J. Jacobsen & Sons, fishing tackle.

Hiller Industries, cooking utensils.

Stockton—Art-Lite Neon Sign Co., neon signs.

Watsonville—Clark Bros. Motor Transport System, spare wheel tire carrier for heavy trucks, etc.

Sacramento—Lobdell & Johnson Spinning Mfg. Co., commercial and household cooking utensils.

Salinas—Gaudin Motor Co., crop thinning machinery.

Mountain View—Victor Benson, outdoor grills.

Redwood City—Pacific Safe and Machine Works, safes and metal storage cabinets.

Hollister—Brown & Chappell Co., water well casing.

East Monterey—Kirby's Muffler, exhaust mufflers.

North Sacramento—Sacramento Pump & Supply House.

Clovis—Cook Disc, disc harrows.

Modesto—Modesto Mattress Co., innerspring mattresses.

Los Angeles

Poulsen & Nardon, Inc., cafeteria food trays for in-plant feeding use. Conway Welding Shop, metal tables and chairs.

J. Kennedy Fisher, fishing tackle lures.

Webster G. Wiley, outdoor cooking equipment (barbecue).

M. F. Conti Company, musical instrument strings.

J. H. Gordon, portable electric lamps.

Saylor Homogenizer Co., momogenizers.

Abbotwares Products, ashtrays.

All Electric Steam Iron Mfg. Co., steam generating attachment for pressing irons.

Bailey Schmitz Co., box springs.

Century Metalcraft Corp., aluminum household cooking utensils.

Excell Battery Co., dry cell batteries.

Louis Gannett Refrigeration Appliance Sales Serv.—electric air heaters.

Plastichrome, metal household chairs and tables.

Worley & Company, steel clothes lockers.

Butts Mfg. Co., domestic outdoor clothes dryers.

Edward S. Golde Asso., extruded aluminum moldings.

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Helga Metal Production Co., insulated metal fishing cabinets.
Hollywood Stool & Cover Co., metal office, restaurant and industrial furniture.

The Houston Corp., film processing equipment.

Valentin Lopez, garden trowels.

George M. Mason, portable lamps.

Project Engineering Co., pneumatic driers.

Sealy Mattress Co., innerspring mattresses.

Walker Products, battery jumpers.

Wire Products Corp., kitchen tool, store display racks, and fireplace screens.

Sam Smith, portable lamps and shades.

California Bedding Co., box springs.

Lear's Foundry & Mfg. Co., automobile radiator grills.

Superior Bedding Co., box springs.

Hoyt Heater Co., hot water heaters.

Pacific Bedding Co., box springs.

Other Southern California

Hollywood—Mole Richardson Co., searchlights and floodlights.

Santa Barbara—Bobrick Mfg. Co., liquid and powdered soap dispensers.

El Monte—Rock Sales Co., wheel balance weights.

Glendale—The Metz Co., barbecue grills.

Long Beach—Henry K. McKelvey, andirons.

Long Beach—B & L Machine Tool & Die, dust pans and fireplace grates.

North Hollywood—Crest Mfg. Co., ice picks and clothes pins.

Pasadena—Chicago Engineering Co., metal chairs and tables.

Pasadena—Lightfoot Studio, metal household furniture.

Pasadena—T & T Electric Mfg. Co., reel seat for fishing rods.

Santa Monica—Aircraft Tool & Specialty Co., coal stokers.

GRUENDLER CRAFTSMANSHIP

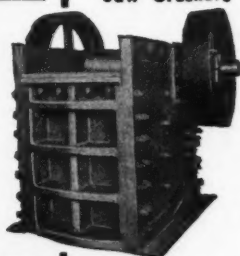
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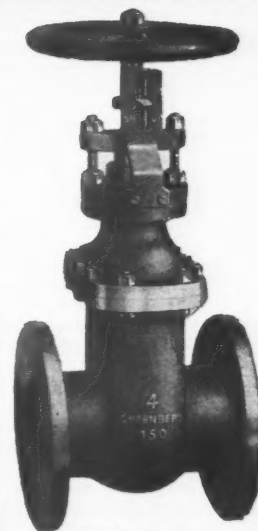
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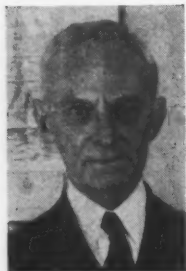
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WESTERN

TRADE WINDS

NEWS ABOUT THOSE WHO DISTRIBUTE AND
SELL INDUSTRIAL EQUIPMENT AND MATERIALS



Capt. A. B. Court

Captain A. B. Court, U. S. Navy, retired, member of the American Society of Naval Architects & Marine Engineers, and graduate of the United States Naval Academy (Annapolis) and Massachusetts Institute of Technology, announces the opening of offices in the Russ Bldg., San Francisco, as consultant on problems of management, production, contract termination and reconversion. Prior to the conclusion of two years active service as Inspector of Naval Material in the San Francisco district, he was executive vice-president of the Los Angeles Shipbuilding & Drydock Company.

Caine Steel Company of Chicago announces its purchase of the facilities of Pennsylvania Steel Company, Los Angeles, the warehouse being located at 2451 E. 23rd Street, Los Angeles. Marshall Wais, vice president of Caine Steel Company of California, has been moved from the Oakland branch to supervise the Los Angeles branch.

Austin Ross, formerly personnel manager for the Emeryville plant of General Cable Corporation, has joined The Conner Company of San Francisco, advertising agency, in charge of their industrial relations division, where his duties will include consultant work in the personnel and labor relations field.

G. C. Rasey, formerly west coast representative of the Murphy Diesel Company, Milwaukee, Wisconsin, has been named supervisor of the marine and stationary Diesel division of the general sales department at the Joshua Hendy Iron Works, Sunnyvale, Calif., with Lawrence H. Earle and Louis Kaiser as his assistants.



Link-Belt Company have taken full occupancy of their new Pacific division office and warehouse in Oakland at 1025 Harrison Street, where merchandise is carried in stock for quick delivery.

Chris Eccles, president of Eccles & Davies, Los Angeles, is celebrating the fourth anniversary of the founding of the phosphor bronze electric welding rod division of the company, with deliveries having risen to the point of carload shipments. One of its original uses was to weld combined brass, iron and sheet iron in a transformer for a Los Angeles public utility, and another early customer was the Belgium Railroads, who found an unusual use for the EDCO rods in the maintenance of copper fire boxes in their locomotives. In the war period some of the welding material has even been shipped by direct air routes from Los Angeles to the British Isles.

Worthington Pump & Machinery Corp. has named Frank I. Kemp, formerly manager, as member of the corporation's Vertical Turbine Pump division. J. P. McArthur becomes San Francisco district office manager, and during the war emergency continues as Pacific Coast manager, Marine division. Harry E. Sargent, of the Marine division at Harrison, N. J., has been named assistant Pacific Coast manager of that division, with headquarters in San Francisco.

Westinghouse announces appointment of Elbert Kramer, former Southern California supervisor for the Electric Appliance Division, as supervisor of the new Better Homes Department for the entire Pacific Coast District. William A. Smith, formerly with Westinghouse at East Pittsburgh, Pa. and transferred to Seattle in 1942, has been appointed panel board specialist.

R. V. Davis, formerly for 14 years with the Southern California Gas Co. and the Los Angeles Electric & Gas Corporation, has been appointed Pacific Coast sales manager of the home appliance division of the A. O. Smith Corp., 727 West 7th Street, Los Angeles.

Jack C. Wilson, former senior administrative officer of the U. S. Army Signal Corps production field office in San Francisco, has been appointed Pacific district manager for the Radio division of Bendix Aviation Corporation, South Bend, Ind.

C. W. Schem, formerly an industrial heating specialist for General Electric Co. in the St. Louis area, is now a sales engineer for northern California for Ajax Electric Co. of Philadelphia.

Fruehauf Trailer Company's Portland branch announce the appointment of Ivar R. Madsen and Merle B. Shannon to handle sales and service.

C. D. Allen has been named transportation sales engineer for the Pacific Coast district sales office of Baldwin Locomotive Works at San Francisco.

P. L. Crooks & Co., 2145 N.W. Pettygrove St., Portland, have been appointed exclusive distributor for Goodall Rubber Company's industrial and construction rubber products for Oregon and southern Washington.

Leading officials of the Clark Equipment Co. visited the Pacific Coast in October for get-acquainted meetings with customers, and at Seattle and San Francisco dinner gatherings were held where pictures of the various lines of Clark equipment were shown. The visitors from the east included Ezra W. Clark, vice-president and general manager of the Clark Tractor Division of Clark Equipment; E. B. Ross, first vice-president of the Clark Equipment Co., and J. H. W. Conklin, sales manager of the Clark Tractor Division. At Seattle the host was Preston Faller, Pacific Northwest representative of the Clark Tractor Division, while at San Francisco Glen Codman, northern California representative, had charge of the meeting, with Robert H. Braun, southern California distributor, co-operating.

Joshua Hendy Iron Works announce the appointment of Clarence F. Jensky of Palo Alto to head a newly created turbine sales division. Mr. Jensky was formerly 11 years with Westinghouse and eight years as chief engineer and general manager of the Murray Iron Works, Burlington, Iowa. Perry J. Collonge, also of Palo Alto is his assistant in the new post.

Hal Singleton has been promoted to sales manager of Graydon Heat Control Co., Lynwood, Calif., and J. H. Davis is now assistant sales manager.

C. D. Allen has been appointed transportation sales engineer for the Pacific Coast territory by Baldwin Locomotive Works.

A. J. Schmitz, manager of the Seattle office of Allis-Chalmers Mfg. Co., is now Pacific regional manager for the firm, and for the time being is also continuing as Seattle manager.

Paul E. Bradfield has joined the staff of F. J. Hearty & Co., San Francisco, who are California representatives of the Edward Valve & Mfg. Co.

Roy E. Wood is now president and general manager of Walling Tractor & Equipment Co., Portland, succeeding Henry G. Walling, retired.

M. V. Eddy has been appointed Pacific Coast industrial sales coordinator by his firm, S. C. Johnson & Son, Inc. of Racine, Wisconsin.

Frank Renner has joined the Los Angeles staff of Foxboro Co. as a sales engineer.

The Seattle branch of the Simonds Saw and Steel Company will be consolidated on January 1 with the Star Machinery Co. in the interests of a broader and improved service to customers of both firms in the Pacific Northwest, it is announced by Irvine B. Rabel, treasurer of Star. Lloyd Wray, Seattle sales manager, Ralph Scott, Ted Wahlstrom and "Bill" Purvis, all Simonds men, will continue to serve customers as in the past, but their operations will be based at the Star Machinery Company, 1741 First Avenue South, augmented by J. M. Tallman, manager of Star's mill and woodworking division, Josh T. Boyd, supplies expert, Neale Warne and Byron Liebel, sales representatives. Simonds' present jobbing distribution in Seattle remains unchanged except for the products mentioned.



Irvine B. Rabel

THE SHOWCASE

100

Portable Electric Hand Searchlight—"Big Beam" No. 411 portable electric hand searchlight, made by U-C Lite Manufacturing Company, will project an intense beam of more than 2,500 feet, or, by means of a snap-on lens, give the same volume of light over a wide area.



Powered by heavy-duty, shockproof 6-volt storage battery, rechargeable from any AC charger, DC line or light plant, lamp head can be turned in any direction and stays adjusted. Can be carried either by hand or shoulder strap, or can be set almost anywhere or securely anchored to any flat surface. U-C Lite Mfg. Co., Chicago, Ill.

101

Hydromatic Propeller Test Stand—This new welded steel frame stand with sheet steel cabinet is for testing all types of Hamilton Standard Hydromatic Propellers Tests for feathering, internal and external leakage, checking distributor valve and other tests. Pressure control is assured by use of heavy duty relief valve; an efficient filter system protects pump and propeller being tested, and the pump motor is 2 h.p., 1200 rpm controlled by a contractor with thermal overload protection. Weight is 625 lbs. Airplane Manufacturing & Supply Corporation, Glendale, California.

102

Gauge Lubricant—Users of CMD Center Point Lubricants are using this material with great success for lubricating various gauge surfaces. It prevents the sticking of gauges, will not corrode the finest of surfaces and therefore can be used as a rust preventive over the entire gauge. The manufacturer is prepared to send samples to companies interested in giving this oil a trial. Chicago Manufacturing and Distributing Company, Chicago, Ill.

103

Water-cooled Generator—A silent 200 kw generator, hermetically sealed within a strong, single cast frame, is one of six TOCCO process induction heating machines exhibited in Cleveland recently. Water enters through the lower

water line and circulates within, leaving through the upper or outlet line. Resilient mountings prevent any contact of generator and base. The Ohio Crankshaft Company, Cleveland, Ohio.

104

Concentrate for Cement Dust—A newly concentrated treatment for cement floors, etc., reduces the cost of treatment to a small fraction of a cent per square foot. This material, known as Synkrete Concentrate, is diluted with three parts water before use, is easily applied, soaking deep into the pores of dusting concrete where it hardens to form a rocklike water insoluble mass that reinforces the binder and prevents surface particles from being worn away. The liquid is almost colorless and a treatment acts as a perfect sizing for painting. Synthex Products Co., New York, N. Y.

105

Angle Bracket—Just announced by the Nobur Manufacturing Co. is a new Angle Bracket that will convert any drill press into an all-purpose machine for angle drilling, polishing, buffing, sanding, rotary filing, wire brushing, and many more uses. This is a quick and inexpensive answer to more speed and efficiency, and greater comfort for the operator. The Angle Bracket is available for all popular models of drill presses whose construction embodies a round tubular column. Nobur Manufacturing Company, Los Angeles, Calif.

106

Ground Clamp—A new ground clamp for welders reasonably priced and designed so that each jaw connects independently to the ground cable, has a heavy-duty processed steel frame with durable copper conductors and contacts and weighs only 1½ pounds. The advantage of each jaw connecting independently to the ground cable is that if one jaw is prevented from making a good electrical contact, the other jaw will carry the current. The maximum jaw spread is 2½ inches. The Lincoln Electric Company, Cleveland, Ohio.

107

Wood-Treating Chemical—A new process for treating wood by a chemical known as "Ar-boneeld" is announced by the E. I. du Pont de Nemours & Company. This solution makes soft woods hard, hard woods harder, reacting with the components of the wood and minimizing their tendency to swell, shrink, or warp. E. I. DuPont de Nemours and Company, Inc., Wilmington, Delaware.

108

Lever-operated Chuck—A new lever operated chuck with a capacity for stock ranging from 1/16 in. to 1 in. cross section and that will be known to the trade as "Jiffy Jig" model J-10, is announced by the Monarch Governor Co. "Jiffy Jig" can be set up in either the horizontal or vertical position, is simple in design consisting of essentially three parts—cap, base and operating lever, the taper on the cap conforming to that of the collet. "Jiffy Jig" may also be used in conjunction with the automatic spring ejector. Monarch Governor Company, Detroit, Michigan.

109

Ball Bearing Cleaning Machine—L & R Manufacturing Company announce a new machine which cleans ball bearings measuring up to 2 inches O.D. combining the L & R rotary principle with a new pressure cleaning mechanism. In the basket of the rotary cleaner, from



50 to 100 bearings of various sizes may be pre-cleaned. In the pressure cleaning tank, continuously filtered solution under six to ten pounds of pressure is forced through each bearing individually, resulting in a perfectly functioning unit. With minor changes the machine can be adjusted to clean gears and other small assemblies with or without ball bearings. Total weight of machine, under 200 pounds, fitted with casters. L & R Mfg. Company, Arlington, N. J.

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110

Hydraulic Press—A portable 1½-ton (capacity) hydraulic press with off-set platen and ram, identified as "HY-MAC" hydro-squeeze gun and built for pressures up to 1000 lbs. P.S.I. is announced by Hydraulic Machinery, Inc. "C" ring-type seals are used on the piston. The ball-type switches are conveniently located on the unit



to control a spring-returned four-way valve. This gun will reach any hard-to-get-at places, formerly inaccessible to power tools. A standard HY-MAC hydraulic power unit complete with pump, motor, tank and valves generates the hydraulic power for operation of the gun. High pressure hydraulic hose connects the guns to the power unit. *Hydraulic Machinery, Inc., Dearborn, Michigan.*

111

Tracer Control Machines—A new 30-minute run motion picture is advertised showing the varied possibilities of Tracer Controlled machines. Gorton engineers supervised the filming of this unusual and excellent way of describing each operation and enables those not familiar with the operation to understand their application. This is available without charge, and all expenses borne by the company. Give full information and date showing, together with two optional dates. *George Gorton Machine Company, Racine, Wisconsin.*

112

Countersink Gauge—The Dayton Rogers Manufacturing Company now has for distribution a countersink gauge capable of checking the machine countersinks as to size and shape for grinding and sharpening as well as the finished countersunk screw adaptors. Five different countersink angles are included on the countersink gauge, including two gauge view profiles in each instance. The gauges are used as standard for both grinding the machine countersinks as well as checking the finished work. *The Dayton Rogers Manufacturing Company, Minneapolis, Minn.*

113

Constant Voltage Transformer—Designed for such applications as heating and refrigeration controls, television and FM receivers, vacuum tube volt-meters, electronic gauging and inspection equipment, photo-metric instruments and other similar applications where precisely regulated supply voltage is mandatory, Sola Electric Company announce a small, compact, hermetically sealed Sola constant voltage transformer for through-chassis mounting. Capacities up to 15 VA, 60 cycle operations are available and supplied with a separate capacitor unit for external mounting. This transformer has no moving parts, requires no manual supervision or adjustments and is self-protecting against short circuit. *Sola Electric Company, Chicago, Ill.*

114

Dust Collector—Metal dust, traditional enemy of employee health and expensive machinery, has a new and formidable opponent in the

recently announced Delta-Milwaukee Dust Collector. Designed for use with an individual machine used in grinding, polishing, buffing, sanding, or any similar operation, this unit is provided with special fittings permitting its attachment to any one of several Delta-Milwaukee tools. A powerful fan sucks both fine and heavy dust and small particles through an efficient air filter. The larger particles fall into a pan at the bottom, easily removable. Many other excellent features of this dust collector should commend itself to users. *The Delta Manufacturing Company, Milwaukee, Wis.*

115

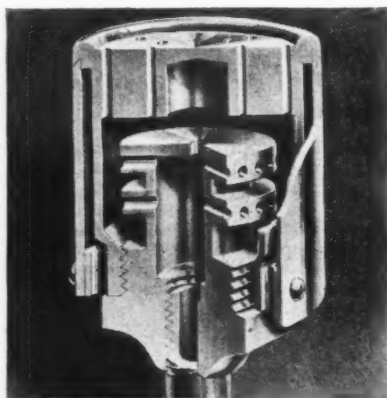
Bench Press—Reimuller Brothers Company announce a new Hy-Speed precision punch press which can be used as a pipe vise, tensile or compression testing machine or a shear for plate or rounds. It is made in a 5-ton size, has a 5x6 inch platen with 7 inches of ram movement, and only two levers are used in the hydraulic foot control, leaving operator's hands free when operating. *Reimuller Brothers Company, Franklin Park, Ill.*

116

Turret Tool Post—Enco Manufacturing Co., designers and manufacturers of Turret Tool Posts and Tailstock Turrets, announce their compound replacement Turret Tool Post—Model CR. Designed especially for engine and bench lathes with low center heights, this model is intended to offer the utmost in tool rigidity under high speed production and to remove possible source of chatter and inaccuracy in the compound. The turret block has 12 indexing positions spaced 30° apart, enabling each of the four tools mounted in the block to perform more than one operation. *Enco Manufacturing Co., Chicago, Ill.*

117

Multi-Flame Heating Nozzle—A new heating nozzle, designed particularly for use with oxygen and the liquefied petroleum gases or natural gas, features an outer air mantle to protect the nozzle head against deflected heat



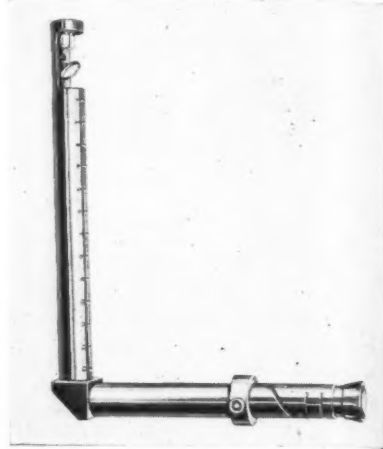
and its internal design is such that the cool and pre-mixed gases become pre-heated for proper combustion. The nozzles are available in numerous sizes and fit all standard Victor welding torch butts. *Victor Equipment Company, San Francisco.*

118

Auxiliary Drum—A new power control unit auxiliary drum, for use with the D4 Towing Winch made exclusively for the "Caterpillar" D4 tractor, provides many additional hoisting and towing services. Simple, quick action and with only one lubricating fitting, it presents no service problem. *Hyster Company, Portland, Oregon.*

119

Internal Surface Inspection—Surfaces of engine parts, gun tubes and other critical parts may be minutely inspected with the aid of the Polan Borescope which reveals cracks, tool marks, porous areas, slack pits and other surface faults. Inspectors using this precision optical tool do not require special training. The light source is built into the head of the borescope, and the tubular bulb providing smooth and evenly distributed illumination of the entire field is concealed by the mirror in front of it. No other



adjustment than focusing of the eye piece is required to put the borescope in operating position. Longitudinal and angular location of internal surface faults may be detected by addition of an inch graduation along the tubes and a clock dial at the eye-piece end. The entire system of the borescope is highly corrected for chromatism and maximum definition in order to eliminate eye strain and fatigue which may otherwise result from continuous inspection of the large areas for minute details. *Zenith Optical Co., a unit of Polan Industries, Huntington, West Va.*

120

Autotransformers for Aircraft—General Electric's Specialty Transformer Division announces a new line of general-purpose single-phase autotransformers designed especially for operation from line-to-neutral of 400-cycle, 120/208 Y-colt, aircraft electrical systems. Suitable for operation at any altitude from sea level to 60,000 feet, they will function properly in temperatures from 40 degrees F. to 140 degrees F., are satisfactory for operation over a frequency range from 380 to 420 cycles, and are suitable for continuous use at an overvoltage of 5 per cent. Bulletin GEA-4319. *General Electric Co., Schenectady, New York, N. Y.*

121

Rotary Pump—A new low pressure, rotary pump for all types of liquids having lubricating qualities, having capacities ranging from one gallon per minute at 600 rpm to four gallons per minute at 2400 rpm, and with the outstanding feature of a patented spur gear tooth form, is announced by the John S. Barnes Corporation. The pump can be supplied with or without a relief valve, and its weight is only 3½ pounds, complete. *John S. Barnes Corp., Rockford, Ill.*

122

Lathe Chuck—Ideal Commutator Dresser Co. announce a new 5 per cent 3-jaw Universal lathe chuck, precision made, with two sets of jaws for holding both internal and external work. *Ideal Commutator Dresser Co., Sycamore, Illinois.*

YOURS FOR THE ASKING

1591

Gorton Accessories Catalog—A new Gorton booklet of 24 pages entitled "580 Aids to Production and Post-War Planning" is published. Adaptability of the accessories to other than Gorton machines is specified, and prices are printed with each description for convenience in ordering. Specify Catalog 1317-F when ordering. *George Gorton Machine Co., Racine, Wisconsin.*

1592

Welding Accessories—National Cylinder Gas Company have for distribution a detailed descriptive and illustrated catalog with prices of their welding accessories. *National Cylinder Gas Company, Chicago, Ill.*

You owe it to yourself to keep posted—only the efficient business survives under the strain and pressure of the war effort. Literature listed in these columns may be just the answer to your need for greater production, substitute materials or knowledge of how to care for your equipment. Just drop a note to Western Industry, 503 Market St., San Francisco, and copies will be forwarded to you. If you do not use business letterheads, please name your company affiliation.

1593

Bank Credit—As part of a campaign to bring local businessmen and bankers together, the Committee for Economic Development has published and distributed to banks all over the U. S. a handbook entitled "Bank Credit: Your Postwar Program and Your Banker." Among the subjects covered in the handbook, in view of the special credit problems expected to result from great peacetime business expansion after the war are: The nature of the businessman's relation with his bank; The kinds of loans banks can make; Other sources of temporary credit; and sources of permanent capital and long-term credit. *Committee for Economic Development, New York, N. Y.*

1594

Steel-Cutting Tools—A conveniently designed spiral 20-page catalogue, illustrating and specifying their new counterbore and high speed steel cutting tools has just been released by the Moreland Tool Company. *Moreland Tool Company, Detroit, Michigan.*

1595

Caterpillar Diesel Engines—Pictured in a new booklet just issued by Caterpillar Tractor Co. are some of the tasks its diesel engines are doing on the home front. The book has 32 pages and is two colors. Form 8657. *Caterpillar Tractor Co., Peoria, Ill.*

1596

Inspecting Internal Surfaces—Folder describes the Polan Borescope which detects the cracks, scratches and other defects in engine parts, gun tubes, etc., which are likely to develop into breakage. Borescope provides precision performance and simplicity of operation without requiring special training of inspectors using this optical tool. *Zenith Optical Company, unit of Polan Industries, Huntington, W. Va.*

1597

Cutting Tools—Robert H. Clark Company announce catalog No. 44 just off the press. This catalog is in two colors, illustrated with diagrams and photos of actual operations, and contains complete specifications and prices, as well as detailed descriptions of the entire line of Clark adjustable cutting tools, an interesting feature being the handy index and ready reference design which has been worked into the cover design. *Robert H. Clark Company, Beverly Hills, Calif.*

1598

Handbook for Crucible Melters—Crucible Manufacturers' Association has just released a pamphlet entitled "Crucible Melters' Handbook," a treatise on crucible furnaces and on the storing, handling and use of crucibles. *Crucible Manufacturers' Association, New York, N. Y.*

1599

Plastic Coating—A new technical bulletin entitled "Amercoat No. 23 Plastic Coating" contains practical suggestions for eliminating corrosion and contamination and describes the many proven uses of this general purpose, cold-applied plastic coating in a wide range of industries. *American Pipe & Construction Co., Los Angeles, Calif.*

1600

Master Copy Type—A new 24-page booklet describes in detail templates or patterns manufactured by the George Gorton Machine Company. Samples, tables of master copy type, and illustrations and descriptive information on master copy dials for indexed engraving and special templates for profiling are included in this new book. Catalog 1309-B. *George Gorton Machine Co., Racine, Wis.*

1601

Manual on Contract Terminations—Jack & Heintz, Inc., announce a new manual of procedure on contract termination containing 137 pages, presenting in detail the exact steps and procedure following receipt of notice that a contract for purchase order emanating from a government agency has been terminated. Beginning with the receipt of the official notice, the manual, in simplicity of expression and treatment, carried the handling of termination through 14 steps and ends with the method for filing the claim in a form acceptable to the government agency involved and complying with Procurement Regulation No. 15 based upon the Contract Settlement Act as passed by Congress. *Jack & Heintz, Inc., Cleveland, Ohio.*

1602

Mobile Canteens—A catalog describing and illustrating eight basic models in mobile canteens for in-plant feeding, so that the purchaser could, if necessary, safely order without needing any additional information, is now offered by S. Blickman, Inc., *Weehawken, N. J.*

Speed Production

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Years of study prove that better lighting results in more production and better workmanship. Better lighting does not necessarily mean more light, but rather the *right kind* at the *right place*.

CHECK lighting facilities in your factory today on these common faults that are easy to correct:

✓ GLARE

Exposed or overbright light sources in the worker's line of vision cause discomfort, tension, less production, poorer workmanship. Reflectors, the right type of lamp or relocation of light source may help eliminate glare.

✓ NOT ENOUGH LIGHT on WORK

Workers must have sufficient light on the work, from the right direction, to see clearly, quickly and surely.

✓ EXTREMES of LIGHT and DARK

Strictly localized lighting which produces violent contrast of light and dark causes excessive eyestrain. Glare reflections and sharp shadows are other evils. Add general overhead lighting to localized light to eliminate shadows.

For advice on your lighting problems, consult your local utility office.



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1603

Survey—The Department of Commerce has just released a survey of University Business Research Projects undertaken in 1943 and 1944, the fourth edition of a guide to business and economic research projects under way or recently completed by graduate students, faculty members and business research staff members of colleges and universities. *United States Dept. of Commerce, San Francisco Regional Office.*

1604

Thermocouple Data—A new enlarged edition of its Thermocouple Data Book and catalog has been issued by Wheelco Instruments Company. Designated Bulletin S2-5 and containing 40 pages, the catalog describes products, gives prices and offers recommendations for thermocouple users. Besides giving data helpful in the selection of thermocouples, lead wire, protecting tubes, heads and insulators, it includes millivolt tables on the various types, temperature conversion tables, tables on wire resistance and on pipe and wire sizes, and a fraction-decimal equivalent chart. *Wheelco Instruments Company, Chicago, Ill.*

1605

Seamless Tubing—A new bulletin on Rickrite seamless tubing, explaining in detail the reduction method by which Rockrite tubing is made, and giving basic information about the principal methods used to size hot-rolled tubing, including a discussion of customary tolerances and the new, closer tolerances as to outside diameter, inside diameter, wall thickness and concentricity of bore obtainable by the Rockrite process. *Tube Reducing Corporation, Wallington, N. J.*

1606

Fuse Pullers—A new bulletin, No. 5, illustrating and describing a handy tool for safely removing and replacing fuses, adjusting switch and fuse clips, handling test tubes, etc., eliminating dangers of shocks and burns, is announced by *Trice Fuse Mfg. Co., Milwaukee, Wis.*

1607

Motion Picture on Reconversion—A 17-minute motion picture covering problems of surplus war materials disposal has been completed and is being distributed for showings before Government, industry, educational and social groups by the Automotive Council of War Production. Entitled "The Aftermath of War Production," the picture is a study of the war surpluses problem through the medium of two typical examples, a tank contract and bomber contract, both of which were cancelled before they were completed. Difficulties of disposal, the element of cost in deciding what is to be scrapped, and other problems are also considered in the picture. *Automotive Council for War Production, Detroit, Mich.*

1608

Precision Lathes—A handsomely printed durable catalogue, featuring 21 full-color lathe illustrations describing all South Bend engine lathes, toolroom lathes, and precision turret lathes, with complete specifications listed opposite each lathe illustration giving capacities, speeds, feeds and dimensions, is offered by the *South Bend Lathe Works, South Bend, Ind.*

1609

Welding and Assembly Positioning Equipment—Bulletin No. 2552, released by Ransome Machinery Company, presents in concise form its full line. Photos, diagrams, specifications and important features of the positioners, as well as load rating tables, are included in the four-page, two-color bulletin. *Ransome Machinery Company, Dunellen, New Jersey.*

1610

Internal Combustion Engine Problems—Two articles appearing in the September issue of "H-O-H Lighthouse," house organ of the D. W. Haering & Co., Inc., contains late information on how the problems of the effect of scale and corrosion in engine jacket cooling systems on plant operation and maintenance are being controlled. *D. W. Haering & Co., Inc., Chicago, Ill.*

1611

Slidefilms—A series of twenty-two discus-sional type slidefilms has been released for industrial use by the Jam Handy Organization, each slidefilm providing visual material for a single foreman school or apprentice session. Each film concludes with a series of pointed test and review questions for the convenience of the instructor. Title of the series is "Instructional Program of Safe Practices in Woodworking." *The Jam Handy Organization, Detroit, Mich.*

1612

Hydraulic Presses—A four-page bulletin describing its expanded line of improved "Junior" hydraulic presses intended primarily for light and medium duty assembly and broaching work, is now available from Colonial Broach Company. Both the bench and base types are featured, also new accessories. *Colonial Broach Co., Detroit, Michigan.*

1613

New Specifications for Packing of Overseas Shipments—The Office of the Quartermaster General, Army Service Forces, has compiled and issued a two-volume collection of specifications covering the packaging and packing of subsistence and resale items for overseas shipment. These specifications furnish suppliers with complete information on correct packing and packaging procedure for all types of merchandise. *Army Service Forces, Washington, D. C.*

1614

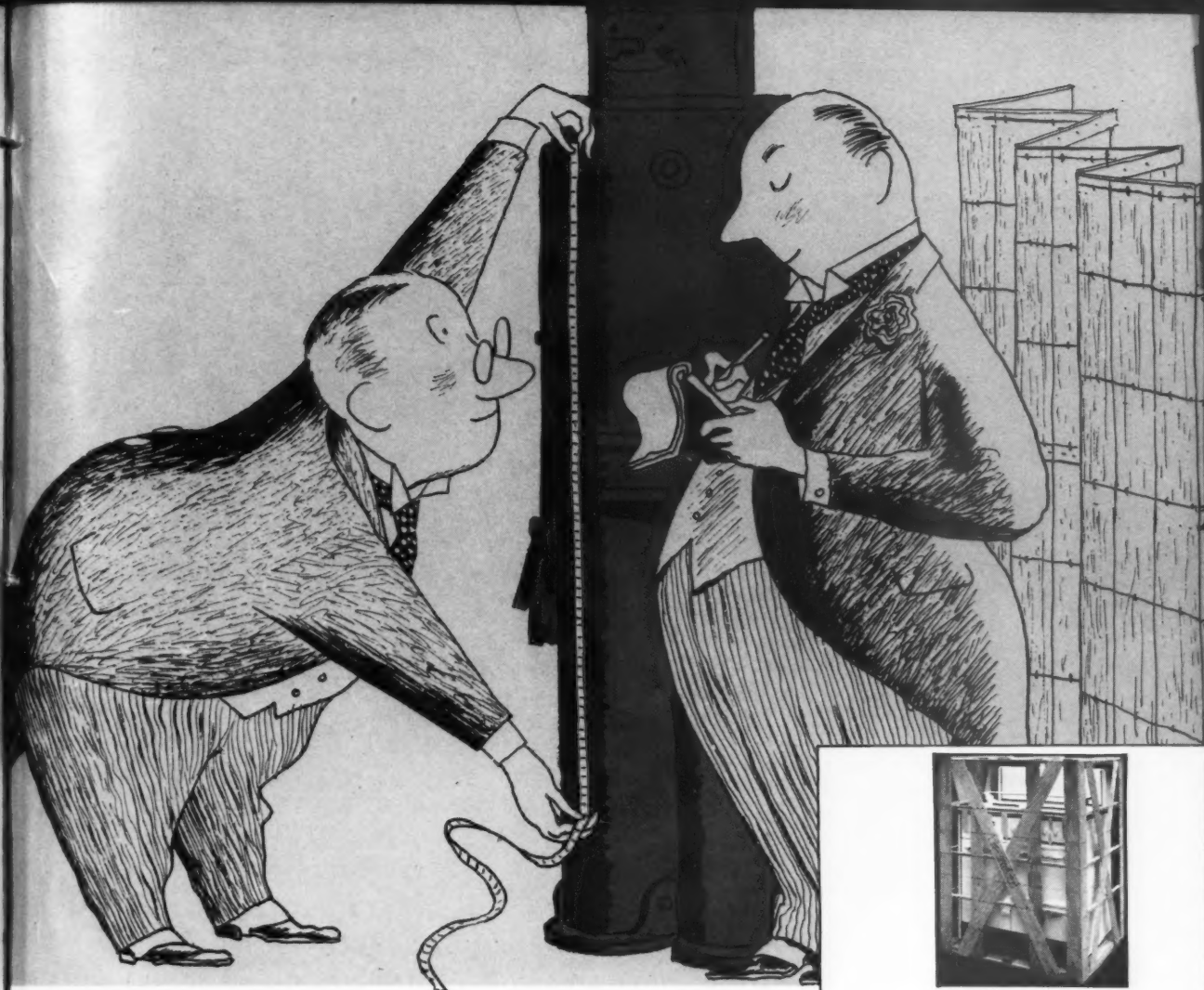
Shankless Drill—A manual describing and illustrating a new shankless high speed drill just presented to the public, is published by the Republic Drill & Tool Co. This drill is "a new style high speed drill, with a continuous flute, produced by roll-forging and hot-twisting, and driven by a removable taper shank, known as a drill driver." *Republic Drill & Tool Co., Chicago, Ill.*

1615

Gears—A 16-page illustrated catalog, illustrating and describing 27 different gears and gear sets, including spiral bevel gears and pinions, worm and worm wheels, Zerold gears and pinions, etc., has just been produced by the Fairfield Manufacturing Co. Other illustrations show factory and laboratory facilities. *Fairfield Mfg. Co., Lafayette, Ind.*

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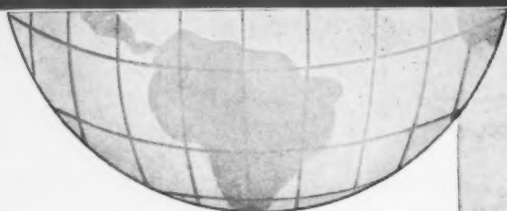
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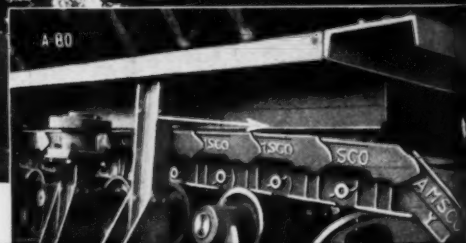
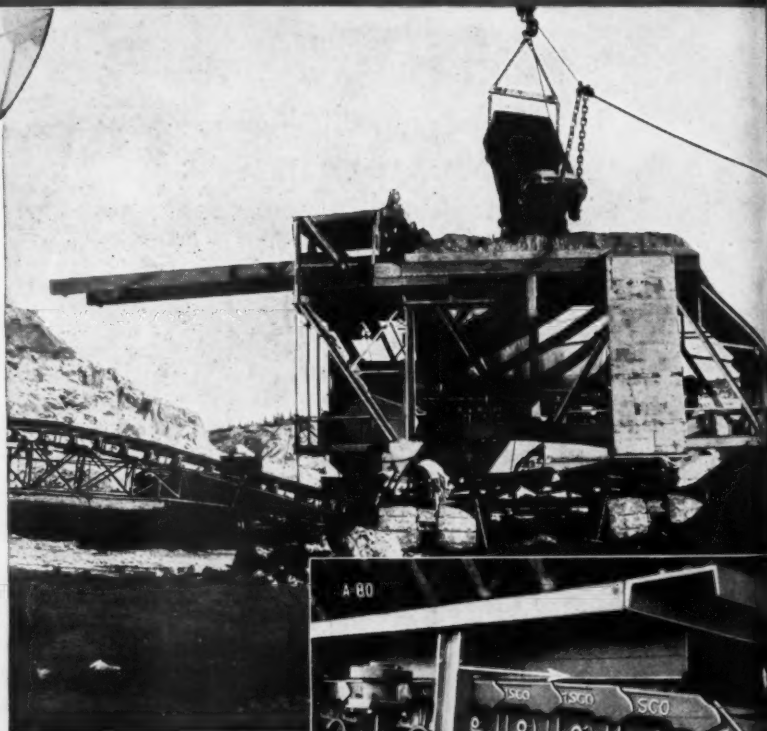
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